



Are Auditors Biased? The Effect of Anchoring and Adjustment Heuristics on Auditors' Judgment

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Abstract

Objective –The objective of this paper is to illustrate one of the crucial factors that affect auditors in making their judgment which can lead to systematic error. This paper provides background on how heuristics and biases can affect the judgment of auditors to increase the awareness of the anchoring and adjustment heuristic on audit judgment.

Methodology –This research is a 2 x 2 experimental study which analyzes the employment of anchoring and adjusting bias of auditor in the process of making their audit judgment. This research employed three (3) experimental questions on 100 auditors in Surabaya, Indonesia, with experiences ranging from 0-8 years.

Results –The result indicates that is evident that anchoring and adjustment heuristic exist and affect auditors' judgment. The findings also indicates that experience influence auditors' judgment whereas gender does not have such effect on auditors' judgment. However, experience and gender can moderate the effect of anchoring and adjustment heuristic on auditors' judgment.

Research limitations/implications –The experimental questions used were simplified abstractions compared to the complex analytical reviews auditors typically encounter. Additionally, the sample size, consisting of 100 auditors, may limit the generalizability of the findings. The study exclusively focused on differences in auditor judgment influenced by anchoring and adjusting, without exploring potential contributions from other heuristic factors. Lastly, gender was categorized broadly as male and female, without further differentiation based on specific gender characteristics.

Novelty/Originality –Its originality lies in adding moderation variable of gender and experience. While prior research has explored the impact of behavior on audit judgment to enhance decision-making in auditing, none have investigated anchoring and adjustment heuristics while considering the moderating factors of gender and experience.

Keywords: Audit judgment, Heuristics and biases, Anchoring and adjustment, Experience, Gender

1. Introduction

In the past few decades, human behavior has been a frequent topic of discussion in various academic disciplines. Many scholars and professionals have integrated behavioral models into their work. Notably, in the 1970s, American psychologists Amos Tversky and Daniel Kahneman introduced heuristic models that influence human judgment and decision-making. These models delineate two primary thinking systems in humans: System 1, characterized by automatic and swift decision-making with minimal effort, and System 2, which demands focused mental deliberation (Kahneman, 2011). While heuristics aid in decision-making, they can also lead to systematic errors (Tversky & Kahneman, 1974).

Within the context of financial statement audits, auditors play a vital role in assessing the fairness of their clients' financial statements. Auditing is a complex endeavor, demanding the exercise of professional judgment (Joyce & Biddle, 1981; Maradona, 2020; Messier et al., 2019). The foundation of this judgment lies in audit standards (Knechel, 2013; Maradona, 2020), as outlined in the *Standar Profesional Akuntan Publik (SPAP)*, Section 570. These standards stress the significance of auditors' judgment when evaluating a business's ability to maintain its operations. Auditors employ this judgment to determine what information to gather, how to collect it, and the implications of the information collected (Joyce & Biddle, 1981).

Recent audit failures have eroded public trust in the accounting profession's capacity to scrutinize financial statements. This concern was raised by Rick Murray, Chair Emeritus of The Center for Capital Market Competitiveness, who emphasized the necessity of clarifying the role of auditors. In the current era, almost all financial reporting crises have originated from the failure to detect fraud and assess a company's going concern (Oliver, 2018).

This research holds significance because auditors, being human, are susceptible to cognitive biases and heuristics that can influence their decision-making during audits (Henrizi et al., 2020). There are three identified common heuristics utilized for predicting values and calculating probabilities: representativeness, availability, and adjustment and anchoring (Tversky & Kahneman, 1974). This study specifically examines the adjustment and anchoring heuristic, given that auditors frequently encounter anchor values. While prior research conducted by (Chapman & Johnson, 1999; Epley & Gilovich, 2006; Henrizi et al., 2020; Joyce & Biddle, 1981; Kinney & Uecker, 1982; Kowalczyk & Wolfe, 1998; Maradona, 2020; Monroe & Chung, 2001; Nordlund et al., 2022; Putra & Rani, 2016; Surtiana, 2014; Widyakusuma et al., 2019; Wilson et al., 1997; Wright & Anderson, 1989) has explored the impact of behavior on audit judgment to enhance decision-making in auditing, none have investigated anchoring and adjustment heuristics while considering the moderating factors of gender and experience.

The existing studies on gender difference and experience affecting judgment have varied outcomes. Studies conducted by (I. W. Atmaja & Sukartha, 2021; Chung & Monroe, 1998; Monroe & Chung, 2001; O'Donnell & Johnson, 2003; Widiastoeti & Murwato, 2022) stated that gender difference can impact auditors' judgment. On the other hand, studies conducted by (Jamilah et al., 2007; Manurung & Hasbi, 2023; Pasanda & Paranoan, 2013; Trisnaningsih, 2003; Zulaikha, 2006) stated there was no effect of gender on auditors' judgment. Also, the former studies on experience conducted by (Aida, 2021; D. Atmaja, 2018; Bonner et al., 1997; Diah Puspa Arum, 2008; Shelton, 1999; Sumartono et al., 2022; Surtiana, 2014; Widiastoeti & Murwato, 2022) stated that experience can affect auditors' judgment whereas study conducted by (Kadir & Hasibuan, 2018; Merdekawati, 2022; Tampubolon, 2018) found that experience doesn't affect auditors' judgment.

Surabaya, with its significant population and robust economic growth. As of research conducted by *Badan Pusat Statistik (BPS)*, in 2019 there are 595 active Company in Surabaya which 174 of them are categorized as big industry (Badan Pusat Statistik (BPS), 2021). Whereas in 2023 based on directory issued by *Ikatan Akuntan Publik Indonesia (IAPI)* there are 52 active public accounting firm based in Surabaya. This shows that Surabaya is a perfect place for this research.

In summary, this research aims to investigate cognitive biases in auditors, with a specific focus on the anchoring and adjustment heuristic. Moreover, it seeks to understand how factors such as gender and experience may influence auditors' cognitive biases. The subsequent sections of this paper are structured as follows. Following this introduction, the literature review, theoretical framework and hypothesis will offer a more detailed literature review on audit judgment and the bias associated and also provide the basis of the hypothesis. The third section will provide a detailed method of the research as for the fourth section, we will outline the result of

the empirical findings. The final section will give a summarized conclusion of the paper, implication of the research conducted and also the limitation of this paper.

2. Literature Review, Theoretical Framework and Hypotheses Development

2.1 Literature Review

2.11 Audit Judgment

Judgment is the cognitive process of decision-making that involves a continuous search for information, deciding whether to take action or not, and accepting additional information. Professional judgment relies on a person's professional knowledge and experience to reach conclusions or make decisions (Gramling et al., 2012; Jamilah et al., 2007).

In auditing, where not all available evidence can be examined, audit judgment plays a pivotal role in the audit process. This is because the evidence collected serves as the foundation for the audited financial statements (Praditaningrum & Indira, 2012) Moreover, since the information gathered by auditors rarely, if ever, fully represents the client's financial reality (Joyce & Biddle, 1981), the exercise of audit judgment becomes a critical and meticulous task.

Audit judgment can be categorized into three levels based on its significance: (1) Determining materiality level, (2) Evaluating risk level, and (3) Assessing the going concern of the entity. Each of these levels demands careful and considerate judgment in the audit process (Puspitasari, 2014).

2.12 Heuristics and Bias

In essence, humans operate with two thinking systems: System 1 and System 2. System 1 operates automatically and swiftly, requiring minimal effort and control, while System 2 demands specific attention and focused mental activity (Kahneman, 2011). To make rational decisions, individuals need to consider facts and other relevant inputs, which involve substantial mental effort (Kahneman, 2011). This mental effort becomes even more challenging when there's uncertainty or when information is overly complex, making rational decision-making difficult. Therefore, humans often rely on heuristics, mental shortcuts (System 1), which involve using stereotypes and incomplete information to aid quick decision-making (Kahneman, 2011).

These mental shortcuts, or heuristics, are useful for making quick decisions but are also susceptible to errors (Maradona, 2020; Tversky & Kahneman, 1974). (Tversky & Kahneman, 1974) identified three common heuristics in predicting values and calculating probabilities: representativeness, availability, and adjustment and anchoring. Just as any human being, auditors are subject to heuristics and biases in their decision-making, some of which can serve as barriers to the quality of an audit. The behavioral auditing literature has indeed documented that auditors are susceptible to variety of judgment biases (Detzen & Gold, 2021). Since this research focuses on adjustment and anchoring, we'll delve deeper into this particular heuristic in this study.

Anchoring is a significant bias characterized by decision-making that relies excessively on the initial information presented, rather than appropriately considering the weighting of subsequent information (Little & Wu, 2022). The anchoring and adjustment heuristic is typically employed when someone is given an "anchor" or a base value and is required to make an estimate. Whether consciously or not, individuals tend to adjust their estimates based on the provided anchor. This base value could be random or a real calculation. Because a person's thinking is influenced by the anchor value, the adjustments made tend to be less accurate (Henrizi et al., 2020; Slovic & Lichtenstein, 1971; Tversky & Kahneman, 1974).

Judgment influenced by anchoring and adjustment typically begins with (1) a starting point or a seemingly reasonable anchor value and (2) additional information adjusted by an individual to fit their decision. People adapt this supplementary information to support the anchor they've received, then make adjustments. However, these adjustments are usually normative and of lesser magnitude (Chapman & Johnson, 1999; Joyce & Biddle, 1981; Wilson et al., 1997).

2.13 Gender

Gender is a cultural concept aimed at distinguishing between men and women in terms of roles, mental behavior, and emotional characteristics. Gender, in this context, goes beyond biological differences and encompasses social, cultural, and psychological perspectives (Jamilah et al., 2007).

Studies conducted by (Chung and Monroe, 2001) have led to the development of the "selectivity hypothesis," which sheds light on how men and women process information differently. According to this hypothesis, men tend to adopt a less comprehensive approach when dealing with information, while women are inclined to pay meticulous attention to details. (Chung & Monroe, 1998) further emphasize that male students often exhibit a tendency towards hypothesis-confirming behavior, which involves seeking data that supports their hypotheses and rejecting data that contradicts them. Female Auditors, on the other hand, will consider both the qualitative and quantitative evidence provided in the case when finalizing their materiality judgements, thus making a more accurate judgment (Hasan et al., 2021).

(I. W. Atmaja & Sukartha, 2021; Monroe & Chung, 2001) stated that women are more efficient and effective in processing information in complex tasks than men because women have more ability to distinguish and integrate key decisions. When given access to information, women tend to exhibit relatively higher efficiency compared to men. This is attributed to women's sharper memory for new information and their superior information processing capabilities, setting them apart (Jamilah et al., 2007). (Widiastoeti & Murwato, 2022) also stated that the tendency of women who has a better memory and more comprehensive can enhance their judgment. Furthermore, (Abdelfattah et al., 2021) stated that female audit partners are more likely than male audit partners to disclose more Key Audit Matters (i.e. number and detail) with more details after controlling for both client and audit firm attributes compared to their male counterparts.

2.14 Experience

Experience refers to the knowledge and skills acquired by an individual through direct observation or active participation in events or activities (Nasution & Fitriany, 2012; Pranama, 2016). Involvement in such activities allows individuals to deepen and broaden their understanding and expertise in a particular field (D. Atmaja, 2018). According to AICPA AU Section 100-110, a professional's experience involves having the knowledge and expertise to conduct an audit.

Expertise is required for an autonomous auditor to work competently. Expert characteristics represent technical excellence criteria acquired through years of experience and education, as well as the drive to reach perfection and excellence over peers (Natsir et al., 2023).

Experienced auditors are better in determining judgement rather than less-experienced auditors. Working period and also the number of assignments make auditors become more experienced (Widyakusuma et al., 2019). Experience can also improve a person's ability to make careful judgments. This knowledge and understanding can help experienced auditors to be more sensitive in understanding relevant information related to the decisions made (Sumartono et al., 2022).

Experience allows cognitive structures of knowledge to be fine-tuned so that auditors can better differentiate between relevant and irrelevant information. Therefore, experience enhances the knowledge of auditors over time, leading to

improved performance in audit judgement tasks (Hasan et al., 2021) while Experience in work field is expected to improve the ethical decision-making and behaviour compared to the less experienced auditors (Ghani et al., 2021).

Key indicators of audit experience, as outlined by (Surtiana, 2014), encompass (1) the duration of one's work as an auditor, (2) the number of audit tasks undertaken, (3) the types of companies handled, and (4) continuous education. These factors collectively contribute to an individual's audit experience and proficiency.

2.2 Theoretical Framework

The theoretical framework for this research can be observed in Figure 2.1 below

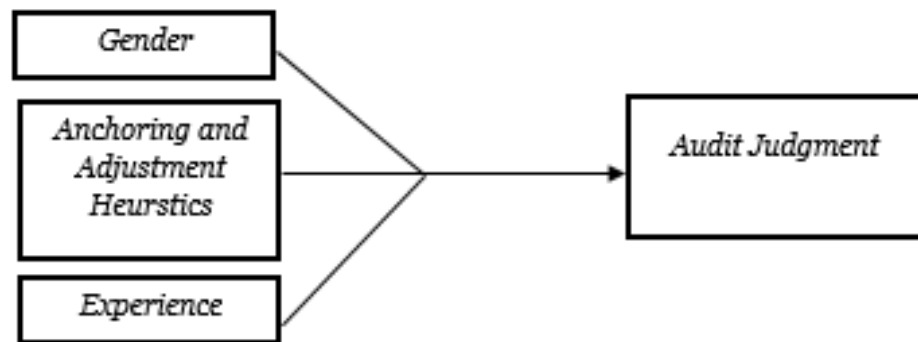


Figure 1:
Theoretical Framework

2.3 Hypothesis Development

2.3.1 Anchoring and Adjustment Heuristic on Audit Judgment

Anchoring and adjustment are typically employed when an individual is provided with an "anchor" or a base value and is tasked with making an estimate. Whether consciously or unconsciously, people tend to adjust their estimates based on the provided anchor. They continue to adapt their estimates based on the anchor until they reach a point they consider acceptable (Henrizi et al., 2020; Slovic & Lichtenstein, 1971; Tversky & Kahneman, 1974).

The process of anchoring and adjustment commences with the subject considering the anchor as a potential answer. Therefore, the anchor can be seen as an expectation, past information, or information given by others. When subjects lack more useful information, the anchor can also be connected to arbitrary information (Henrizi et al., 2020; Wilson et al., 1997).

The crucial third step in the anchoring and adjustment process involves integrating the target in the decision-making phase. At this stage, subjects incorporate the values from the previous steps into a decision and compare them with the anchor. In this phase, subjects start adjusting their values until they believe they have reached an appropriate answer. However, previous studies indicate that the adjustments made are often not entirely accurate (Ashton, 1984; Epley & Gilovich, 2006; Henrizi et al., 2020; Tversky & Kahneman, 1974; Wilson et al., 1997).

(Joyce & Biddle, 1981) explored the effects of adjustment and anchoring on probabilistic inferences in audit judgment. Their research concluded that auditors sometimes deviate from normative decision-making principles, but this is not always attributable to the anchoring effect. Subsequently, Wright and (Wright & Anderson, 1989) found that the anchoring effect is highly influential, a conclusion supported by research conducted (Kinney & Uecker, 1982), who identified anchoring and adjustment during the analytical review stage. However, this effect does not consistently manifest and its magnitude can be influenced by other factors. Research conducted by (Henrizi et al., 2020; Maradona, 2020; Nordlund et al., 2022) also

identified differences in auditor judgment influenced by adjusting and anchoring heuristics.

(Kowalczyk & Wolfe, 1998) conducted research on going concern. The results indicated that auditors are still influenced by such recommendations, and when making decisions, auditors who receive recommendations adjust their decisions based on the provided anchor.

Based on the preceding discussion, the researcher formulates the following hypothesis:

H1. There is a difference in auditor audit judgment due to anchoring and adjustment heuristics.

2.3.2 *Anchoring and Adjustment Heuristic on Audit Judgment Based on Gender*

The application of the anchoring and adjustment heuristic on audit judgment and decision-making can vary between men and women due to psychological differences. In managing information, men often tend to overlook some available information, making their decision-making process less comprehensive. This differs from women, as they tend to be more meticulous in information processing, comprehensively utilizing and evaluating information, and not easily giving up (Jamilah et al., 2007).

Research conducted by (Chung & Monroe, 1998) found that male students tend to be more hypothesis-confirming, while females are not. Hypothesis-confirming refers to the tendency to seek facts that support their hypotheses and reject facts that contradict them. In short, it can be summarized that male students process information selectively, while females process information comprehensively. (O'Donnell & Johnson, 2003) also found differences in task time required by male and female auditors. In tasks of higher complexity, female auditors could complete experiments more quickly than males. However, in tasks of lower complexity, males could perform faster.

Based on the foregoing discussion, the researcher formulates the following hypotheses:

H2. There is a difference in auditor audit judgment due to anchoring and adjustment heuristics based on gender.

H3. There is a difference in auditor audit judgment influenced by anchoring and adjustment heuristics moderated by gender.

2.3.3 *Anchoring and Adjustment Heuristic on Audit Judgment on Experience*

An auditor's experience is a crucial factor in their decision-making process during their tasks (Putra & Rani, 2016). Therefore, less experienced auditors are more likely to make mistakes compared to their more experienced counterparts. Experience can be assessed based on the auditor's years in the profession and the variety of audit tasks they have undertaken (Tampubolon, 2018).

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Based on the preceding discussion, the researcher formulates the following hypotheses:

H4. There is a difference in auditor audit judgment due to anchoring and adjustment heuristics based on experience.

H5. There is a difference in auditor audit judgment influenced by anchoring and adjustment heuristics moderated by experience.

2.3.4 *Anchoring and Adjustment Heuristic on Audit Judgment and Decision Making Moderated by Gender and Experience*

After discussing how gender and experience can influence and moderate the impact of anchoring and adjustment on auditor audit judgment, it can be concluded that both male and female auditors, across various experience levels, are susceptible to the effects of anchoring and adjustment heuristics. Therefore, the researcher formulates the following hypothesis:

H6. There is a difference in auditor audit judgment due to anchoring and adjustment heuristics, which is moderated by both gender and experience.

3. Research Method

This research employs an experimental method with the aim of establishing a cause-and-effect relationship (causal relationship) between two factors while eliminating other interfering factors (Suharsimi Arikunto, 2010). Experimental research comprises two elements, consisting of a control group and an experimental group. The group subjected to treatment is the experimental group, while the one not receiving treatment forms the control group (Yudhanegara & Lestari, 2015)

The study will involve 100 auditors in Surabaya, and it will classify auditors based on their experience into the following categories: 0-2 Years (Junior Auditors), 3-5 Years (Senior Auditors), and 6-8 Years (Professional Auditors). The research will utilize purposive sampling, a technique where the researcher selects samples based on specific considerations. The reason for choosing purposive sampling in this research is the specificity of auditing, which requires auditor participation in the sample. The research focuses on auditors with 0-8 years of experience to align with the predetermined experience criteria.

There are 51 active public accounting firm in Surabaya as of 2022. This research employs purposive sampling and establishes specific criteria and considerations for the samples used. The researcher's considerations include samples that meet the following criteria: (1) Auditors working in Public Accounting Firms in the Surabaya region and (2) Having 0-8 years of work experience in the auditing profession. This resulting in 20 public accounting firm which consists of 100 auditors that meet the criteria.

The research process progresses and is observed to identify any differences or changes within the experimental group.

This research employs a quasi-experimental design, where the selected samples are randomly divided into two groups: a control group and an experimental group. Both groups will then receive online questionnaires via Google Forms, and the characteristics of these online questions can be seen in Table 1.

Table 1:
Anchoring Experiment
Characterization

No	Anchor Type	Bias	Source
1	Internal	Mean-Reverting	Kinney and Uecker (1982)
2	External	Arbitrary Number	Joyce and Biddle (1981)
3	External	Arbitrary Information	Henrizi et, al (2020)

Before filling out the questions, the participants will be informed about the general research's objectives and asked to provide their personal information on the questionnaire, including (1) Name, (2) Gender, (3) Years working as an auditor. This information will be used to segregate auditors based on their gender and experience, which are variables of moderation in this study. The participants will then be given instructions to answer three questions on an online questionnaire.

In Experiment 1, participants will be asked about the upper bound (UB) and lower bound (LB) values where they believe an investigation is necessary to explain changes in Gross Profit Margin. Based on their respective groups, participants will receive values for sales, cost of sales, gross profit margin, and unaudited gross profit percentage for the current year, which differ. Both groups will also be given audited

values for the same metrics from the past two years. The unaudited gross profit % values for each group are 14% and 23.1% for the control and experimental groups.

In Experiment 2, the control group will be asked to estimate significant management fraud (MGTF) whether it is greater or less than 10:1,000 (1%). Meanwhile, the experimental group's estimate will be greater or less than 100:1,000 (10%). Both groups will then be asked to estimate how many out of 1,000 companies commit fraud.

In Experiment 3, both groups will be provided with information to determine the fair value (FV) of a building using the discounted cash flow model, with both groups receiving the same initial value. The difference is that the experimental group will receive a narrative that says, "The client has provided information that another company has sold the same building for IDR 7,000,000,000. However, this information does not represent evidence and should not be considered in your decision."

After participants access the provided google form link, they will receive explanations for the three experimental questions. Following that, participants will fill out pre-experimental questions, which include their name, gender, years of work, and education level. Only then can participants proceed to answer the three provided questions.

The answers will be categorized four times. First, the answers will be separated based on experimental and control groups to determine if there are any differences in judgment between these groups. Next, the answers will be divided based on gender (male and female) to investigate whether there are differences in judgment between genders. The answers will then be segregated based on auditor experience, namely junior, senior, and professional, to determine if differences in judgment are caused by auditor experience. Lastly, the answers will be separated based on groups, gender, and experience to determine if there is an influence on auditor judgment caused by anchoring and adjusting heuristics that are moderated by gender and experience.

4. Results

4.1 Descriptive

Based on the groups, a total of 100 samples were divided into two groups, consisting of the Experimental Group (E) and the Control Group (C), with each group consisting of 55 and 45 individuals, respectively. Based on these results, the distribution between Groups E and C can still be considered balanced.

		Group			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	E	55	55.0	55.0	55.0
	C	45	45.0	45.0	100.0
Total		100	100.0	100.0	

Table 2: Group Sample

Based on gender, the distribution between males and females is almost equal, with 42 samples being female and 58 samples being male.

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	42	42.0	42.0	42.0
	Male	58	58.0	58.0	100.0
Total		100	100.0	100.0	

Table 3: Gender Sample

Based on experience, there are 46 samples with experience as junior auditors, 47 samples with senior auditor experience, and 7 samples with experience as professional auditors.

JAROE
VOL. 7(1)

Table 4:
Experience Sample

		Experience				
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	1-2 (Junior)	Years	46	46.0	46.0	46.0
	3-5 (Senior)	Years	47	47.0	47.0	93.0
	6-8 (Professional)	Years	7	7.0	7.0	100.0
	Total		100	100.0	100.0	

4.2 Result

4.2.1 Anchoring and Adjusting on Audit Judgment

Table 5 presents the results of three experiments which displayed significant outcomes associated with the influence of anchoring and adjusting on the audit judgment of auditors in Surabaya, leading to the acceptance of H1 and the rejection of Ho.

Table 5:
Anchoring and
Adjusting on Audit
Judgment

		Independent Samples Test								
		Levene's Test for Equality of Variances			t-test for Equality of Means					
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
UB	Equal variances assumed	109.676	.000	15.093	98	.000	8.32525	.55159	7.23063	9.41987
	Equal variances not assumed			16.317	70.288	.000	8.32525	.51023	7.30770	9.34280
LB	Equal variances assumed	117.473	.000	16.320	98	.000	7.89697	.48389	6.93671	8.85723
	Equal variances not assumed			15.220	57.205	.000	7.89697	.51885	6.85808	8.93586
MGTFE	Equal variances assumed	31.973	.000	8.793	98	.000	98.74747	11.23004	76.46182	121.03313
	Equal variances not assumed			9.655	59.200	.000	98.74747	10.22778	78.28317	119.21178
FV	Equal variances assumed	3.427	.067	31.845	98	.000	17044161 61.61616	535214 91.505 69	15982045 03.60640	1810627819.6259 3
	Equal variances not assumed			31.358	87.158	.000	17044161 61.61616	54353 216.83 571	15963860 19.13650	1812446304.095 83

In the first scenario, where auditors were tasked with estimating the upper bound (UB) and lower bound (LB) values for a comprehensive audit of gross margin increase, both scenarios yielded a significance value of 0.000. This was the result of auditors in groups E and C being influenced by the anchors provided, namely the Gross Margin % figures for Unaudited 2020, with distinct values for each group (E = 23.1% and C = 14.0%). The auditors' responses revealed that the UB had an average answer of E = 25.44% and C = 17.11%, slightly higher than the Gross Margin % for Unaudited 2020. Conversely, for the LB, the average answers were E = 19.36% and C

= 11.47%, which was marginally lower than the Gross Margin % for Unaudited 2020 (Table 5).

This phenomenon attributed to the use of mental shortcuts by auditors when they encountered the Gross Margin % figure for Unaudited 2020, which acted as an anchor and subtly influenced their judgments. While auditors should not rely on unaudited figures as professional references in their decision-making, it was evident that both consciously and unconsciously, they still took these values into account. If we trace the process, auditors observed the Gross Margin % figure for Unaudited 2020 (the anchor) and subsequently felt influenced by this number. Consequently, when providing their judgments, they adjusted their answers in accordance with the given anchor. This outcome aligns with previous research conducted by (Biggs & Wild, 1985; Henrizi et al., 2020; Kinney & Uecker, 1982), where auditors could not simply ignore unaudited information, as it acted as an anchor, thus biasing their judgments.

In the second scenario, where auditors were asked to estimate the magnitude of management fraud by clients (MGTFE), the significance value was 0.000, falling below the threshold of 0.05. This was due to the influence of anchors on auditors in groups E and C. These anchors represented the figures related to the client's management fraud, each having distinct values (E = 100 out of 1,000 and C = 10 out of 1,000). Examining Table 6, it was clear that the average answers in both groups closely matched the anchor values (E = 123.63 and C = 24.88).

Are Auditors Biased? The Effect of Anchoring and Adjustment Heuristics on Auditors' Judgment

Group Statistics						
	GROUP	N	Mean	Std. Deviation	Std. Error Mean	
UB	E	55	25.4364	3.51591	.47409	
	C	45	17.1111	1.26531	.18862	
LB	E	55	19.3636	1.39262	.18778	
	C	45	11.4667	3.24458	.48367	
MGTFE	E	55	123.6364	74.07438	9.98819	
	C	45	24.8889	14.76363	2.20083	
FV	E	55	7055527272.7273	247038822.45101	33310708.02391	
	C	45	535111111.1111	288114735.84338	42949608.97768	

Table 6: Group Statistics

This happened from the use of mental shortcuts when auditors in group E saw the value (and were influenced by it) (Henrizi et al., 2020; Slovic & Lichtenstein, 1971; Tversky & Kahneman, 1974). In this process, they had already seen the anchoring value which subtly affecting their responses despite the experiment's instruction to disregard this recommendation. Consequently, they adjusted their answers in accordance with the given anchor (Henrizi et al., 2020; Slovic & Lichtenstein, 1971; Tversky & Kahneman, 1974).

The last question has the highest t-value, which is 31.854, with a significance level of 0.000. This occurs because auditors in groups E and C have been influenced by the anchor provided (information on competitor's selling price), which is in group E = Rp7,000,000,000, and in group C = not specified. It can be observed that the average response for C is Rp5,351,111,111, and for E is Rp7,055,527,273. This result is in line with study conducted by (Nordlund et al., 2022) which stated that auditors anchor in the figure presented by the company, and despite the auditing efforts, there is a substantial risk of management bias in the fair values reported.

This can happen primarily due to the limited awareness of auditors regarding the biases that can affect their probabilistic judgments. Their limited awareness of biases, especially those related to anchoring and adjusting, makes auditors vulnerable to errors in judgment. Knowledge about or familiarity with behaviorism makes the awareness against cognitive biases event more available (Henrizi et al., 2020). (Wilson et al., 1997) also emphasizes that people being aware of the existence of behaviorism and cognitive biases are better equipped to resist the anchoring heuristic.

These judgment errors during the audit process determine the opinions issued by auditors, and opinion errors can result in the issuance of erroneous audit reports. This, in turn, can have a significant impact on stakeholder decision-making, as they rely on the audited financial reports, which may contain misinformation.

In conclusion, H1 is accepted, indicating differences in audit judgment caused by anchoring and adjusting.

4.2.2 Anchoring and Adjustment Heuristic on Audit Judgment Based on Gender

Table 7 reveals that only one experiment produced significant results regarding the influence of adjusting and anchoring on the audit judgment of auditors in Surabaya based on gender.

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
UB	Equal variances assumed	.002	.963	-.202	98	.841	-.20443	1.01354	-2.21577	1.80691
	Equal variances not assumed			-.203	90.346	.840	-.20443	1.00752	-2.20595	1.79708
LB	Equal variances assumed	4.210	.043	1.638	98	.105	1.51970	.92783	3.36095	.32154
	Equal variances not assumed			1.589	77.848	.116	1.51970	.95662	3.42425	.38484
MG TFE	Equal variances assumed	17.658	.000	2.498	98	.014	36.67488	14.67997	65.80681	7.54295
	Equal variances not assumed			2.741	90.153	.007	36.67488	13.37969	63.25535	10.09440
FV	Equal variances assumed	1.794	.183	1.712	98	.090	30659605	179078217.04109	66197095	48778834.41607
	Equal variances not assumed			1.692	84.500	.094	30659605	181227675.74696	666018.956	53763900.33670

Table 7:
Anchoring and Adjusting on Audit Judgment Based on Gender

As seen in table 8, in the first scenario where auditors estimated upper bound (UB) and lower bound (LB) values for a comprehensive audit of gross margin increase, the significance values were 0.180 and 0.116, both exceeding 0.05. Analyzing the average responses, UB had an average value for both genders, M = 21.78% and F = 21.57%, with a slight difference of 0.21%. For LB, the average values were M = 16.45% and F = 14.93%, with a difference of 1.52%. These results suggest that UB and LB did not significantly affect audit judgments.

In summary, it appears that even though auditors may use mental shortcuts when interpreting the Gross Margin % for Unaudited 2020, there is no significant difference in their responses based on gender. Therefore, gender does not appear to have a notable influence on adjusting and anchoring in the first scenario.

In the second scenario, where auditors estimated the extent of management fraud by clients (MGTFE), the significance value was 0.007, which is below 0.05. The average responses for both genders were M = 94.60 and F = 57.93, showing a notable difference of 36.67. This indicates that MGTFE significantly influences the audit judgments made by auditors.

In the final scenario, where auditors estimated the fair value (FV) of a building, the significance value was 0.094, surpassing 0.05. The average values for both genders were M = Rp6,417,310,344 and F = Rp6,110,714,285, implying that FV does not significantly affect the audit judgments made by auditors.

Group Statistics			
Gender	N	Mean	Std. Deviation
Female	42	21.5714	4.89471
Male	58	21.7759	5.07848
Female	42	14.9286	5.07213
Male	58	16.4483	4.18926
Female	42	1.5476	.50376
Male	58	1.1897	.39545
Female	42	6110714285.7143	921460645.52663
Male	58	6417310344.8276	855785495.48182

Table 8: Group Statistics

Taken together, these scenarios suggest that there is no significant difference in audit judgments based on gender. This happens due to the anchor values provided. The participants can't help but notice the anchor value and adjust their answer according to the value (Henrizi et al., 2020; Slovic & Lichtenstein, 1971; Tversky & Kahneman, 1974).

These findings align with previous research conducted by (I. W. Atmaja & Sukartha, 2021; Chung & Monroe, 1998; Monroe & Chung, 2001; O'Donnell & Johnson, 2003; Widiastoeti & Murwato, 2022) indicating no substantial judgment differences between male and female auditors concerning factors such as organizational and professional commitment, motivation, and job opportunities. This study also contradicts research conducted by (I. W. Atmaja & Sukartha, 2021; Chung & Monroe, 1998; Monroe & Chung, 2001; O'Donnell & Johnson, 2003; Widiastoeti & Murwato, 2022).

In essence, the inherent gender differences do not significantly impact the judgments made during audit assignments. This observation can be attributed to the fact that in this modern era, gender disparities are less common, making competition more equitable and having less significant impacts on the cognitive abilities of both genders in making judgments. Natural differences between genders seem to have little significance in this context.

In summary, the statistical results lead to the conclusion that H2 is rejected, signifying no significant difference in audit judgment based on gender.

4.2.3 Anchoring and Adjustment Heuristic on Audit Judgment Based on Experience

In Table 9, it's evident that LB, UB, and MGTFE have significant values, while FV does not. Meanwhile, Table 9 reveals that when considering experience, the highest significance is found between auditors with 1-2 years of experience and auditors with 6-8 years.

		ANOVA				
		Sum of Squares	Df	Mean Square	F	Sig.
UB	Between Groups	295.570	2	147.785	6.643	.002
	Within Groups	2157.820	97	22.246		
	Total	2453.390	99			
LB	Between Groups	252.113	2	126.056	6.576	.002
	Within Groups	1859.277	97	19.168		
	Total	2111.390	99			
MGT FE	Between Groups	61797.703	2	30898.852	6.174	.003
	Within Groups	485430.297	97	5004.436		
	Total	547228.000	99			
FV	Between Groups	180950889119267	2	9047544455963	1.139	.324
		5840.000		37920.000		
	Within Groups	770380599488073	97	794206803595		
		20000.000		951740.000		
	Total	78847568840000	99			
		000000.000				

In the first scenario, where auditors estimated the highest and lowest values for a comprehensive audit of gross margin increase (UB and LB), the significance values were 0.002, which is lower than 0.05. Looking at the average auditor responses, for those with 1-3 years of experience, UB = 23.54% and LB = 14.10%. For those with 3-5 years, UB = 20.02% and LB = 17.38%, and for auditors with 6-8 years of experience, UB = 20.71% and LB = 16.48% (Table 10).

What's interesting in these results is that each level of experience yields different average values. This suggests the use of mental shortcuts by auditors when interpreting and being influenced by the Gross Margin % for Unaudited 2020 across different experience levels with auditors with 6-8 years of experience have the least biased answer.

In the second scenario, where auditors estimated the extent of management fraud by clients (MGTFE), the significance value was 0.003, lower than 0.05. When looking at the average responses, for those with 1-3 years of experience, the average was 104, while for those with 3-5 years, the average was 62, and for auditors with 6-8 years of experience, the average was 25 (Table 10).

Again, it's intriguing that each level of experience produces different average values. The trend suggests that as auditors gain more experience, their estimations of management fraud tend to decrease. This implies the use of mental shortcuts when auditors are influenced by the anchors at all experience levels.

In contrast, in the final scenario, where auditors estimated the fair value (FV) of a building, there was no significance with a p-value of 0.324. Looking at the average auditor responses, those with 1-3 years of experience had an average value of Rp6,142,967,391, while those with 3-5 years had an average of Rp6,409,095,745, and those with 6-8 years of experience had an average of Rp6,435,714,286 (Table 10). The final scenario seems to be different from the previous experiment. As the more experienced auditors answer is closer to the anchor value provided in the question. This can also happen when there was a different cognitive bias (i.e. overconfidence) present on the more experienced auditors which doesn't taken account on this research.

The result also align with study conducted by (Aida, 2021; D. Atmaja, 2018; Bonner et al., 1997; Shelton, 1999; Sumartono et al., 2022; Surtiana, 2014; Widiastoeti & Murwato, 2022) and contradicts study conducted by (Kadir & Hasibuan, 2018; Merdekawati, 2022; Tampubolon, 2018).

The overall significance of experience can be explained because of auditors with higher experience levels also contribute to greater attentiveness because senior auditors have more audit assignments under their belts and more experiential inputs to consider when making judgments. Furthermore, senior auditors typically undergo more advanced training, equipping them to minimize cognitive bias in their judgment.

The result aligns with studies conducted by (Shelton, 1999) and (Diah Puspa Arum, 2008) which indicates that there is an effect of experience on auditors' judgment. The result also in line with studies conducted by (Widyakusuma et al., 2019) which stated that experienced auditors are better in determining judgement rather than less-experienced auditors. Working period also make auditors become more experienced. The knowledge and understanding of a more experienced auditor can also make them more sensitive towards understanding relevant information to base their judgment from (Sumartono et al., 2022).

This research underscores the importance of reviews carried out by experienced superiors. It indicates that auditors with more experience are less affected by anchoring and adjustment. Consequently, the ongoing review process can detect errors made by junior auditors and provide feedback. This review function also encourages junior auditors to be more diligent, knowing that their work is being monitored.

In conclusion, the statistical results lead to the acceptance of H4, indicating differences in audit judgments based on experience.

		Group Statistics							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
UB	1-2 Years	46	23.5435	5.96920	.88011	21.7708	25.3161	16.00	32.00
	3-5 Years	47	20.0213	3.42300	.49930	19.0162	21.0263	15.00	24.00
	6-8 Years	7	20.7143	1.60357	.60609	19.2312	22.1973	18.00	22.00
	Total	100	21.6900	4.97812	.49781	20.7022	22.6778	15.00	32.00
LB	1-2 Years	46	14.1087	5.80891	.85648	12.3837	15.8337	7.00	22.00
	3-5 Years	47	17.3830	2.65029	.38658	16.6048	18.1611	13.00	23.00
	6-8 Years	7	16.4286	1.71825	.64944	14.8395	18.0177	14.00	18.00
	Total	100	15.8100	4.61814	.46181	14.8937	16.7263	7.00	23.00
MGTF E	1-2 Years	46	104.2391	91.52903	13.49522	77.0584	131.4199	8.00	350.00
	3-5 Years	47	62.6809	48.24670	7.03750	48.5151	76.8466	5.00	135.00
	6-8 Years	7	25.5714	15.07600	5.69819	11.6285	39.5144	4.00	40.00
	Total	100	79.2000	74.34753	7.43475	64.4478	93.9522	4.00	350.00
FV	1-2 Years	46	6142967391.3043	978781847.23083	144313510.20462	5852305061.3400	6433629721.2687	5.00E+9	7.40E+9
	3-5 Years	47	640909574.46809	828616747.03071	120866174.76065	6165804753.4470	6652386735.9147	5.00E+9	7.50E+9
	6-8 Years	7	6435714285.7143	624976190.02266	236218796.30523	5857707713.5718	7013720857.8567	5.55E+9	7.00E+9
	Total	100	628854000.00000	892434921.60097	89243492.16010	6111461550.0372	6465618449.9628	5.00E+9	7.50E+9

Table 10: Group Statistics

4.2.4 Anchoring and Adjustment Heuristic on Audit Judgment Moderated by Gender and Experience

From Table 11, it is evident that all three experiments have significant results related to the influence of anchoring and adjusting on audit judgments, moderated by gender, experience, and both simultaneously in Surabaya, with a significance level of 0.000.

In Table 11, it can be concluded that gender can moderate the impact of anchoring and adjusting on audit judgments. However, looking at Table 11, there are

two items that do not significantly affect audit judgments, namely FV and LB, with significance values of 0.585 and 0.157, respectively. This also supports H2, indicating that, in terms of gender, adjusting and anchoring do not significantly influence audit judgments. Experience can moderate the impact of anchoring and adjusting on audit judgments. This is in line with H5, where, in terms of experience, anchoring and adjusting have a significant impact on audit judgments.

Overall, gender and experience can moderate the influence of anchoring and adjusting on audit judgments, as depicted in Table 11.

In summary, the statistical results lead to the following conclusions:

H3 is accepted, indicating differences in audit judgments moderated by gender.

H5 is accepted, indicating differences in audit judgments moderated by experience.

H6 is accepted, indicating differences in audit judgments moderated by gender and experience.

Experience Simultaneously. Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.999	15799.348 ^b	4.000	87.000	.000	.999
	Wilks' Lambda	.001	15799.348 ^b	4.000	87.000	.000	.999
	Hotelling's Trace	726.407	15799.348 ^b	4.000	87.000	.000	.999
	Roy's Largest Root	726.407	15799.348 ^b	4.000	87.000	.000	.999
Group * Gender	Pillai's Trace	.557	8.501	8.000	176.000	.000	.279
	Wilks' Lambda	.474	9.837 ^b	8.000	174.000	.000	.311
	Hotelling's Trace	1.043	11.208	8.000	172.000	.000	.343
	Roy's Largest Root	.974	21.434 ^c	4.000	88.000	.000	.493
Group * Experience	Pillai's Trace	1.905	20.457	16.000	360.000	.000	.476
	Wilks' Lambda	.019	44.456	16.000	266.427	.000	.630
	Hotelling's Trace	11.770	62.896	16.000	342.000	.000	.746
	Roy's Largest Root	7.883	177.365 ^c	4.000	90.000	.000	.887
Group * Gender * Experience	Pillai's Trace	.315	4.116	8.000	176.000	.000	.158
	Wilks' Lambda	.688	4.479 ^b	8.000	174.000	.000	.171
	Hotelling's Trace	.450	4.838	8.000	172.000	.000	.184
	Roy's Largest Root	.440	9.691 ^c	4.000	88.000	.000	.306

Table 11:
Anchoring and
Adjustment
Heuristic on Audit
Judgment Moderated
by Gender and
Experience

5. Conclusion

In this study, we examined the anchoring and adjusting effect on auditors' judgment in Surabaya. Based on the result of the experiment, this study finds that there is significant differences in audit judgments among auditors due to the impact of anchoring and adjusting and there is a significant difference in judgment due to the effects of anchoring and adjusting are based on auditors' experience. Notably, the study found no significant differences in judgment influenced by anchoring and

adjusting based on gender. Also Gender and experience are simultaneously moderate the influence of anchoring and adjusting on audit judgment.

For future researchers studying the impact of anchoring and adjusting heuristics, it is recommended to expand the sample size, potentially including samples from Indonesia, to provide a more comprehensive overview of auditors in that region. Future research can also consider adding new variables, such as education or knowledge related to cognitive biases, or explore other cognitive biases that may affect audit judgment.

It's important to note some limitations of this study. Firstly, the experimental questions used were a simplified abstraction compared to the complexity of the analytical review typically encountered by auditors. Auditors generally have knowledge of their client's business and prior experience, which serves as a benchmark for decision-making. Secondly, the sample size used in this research (100 auditors) is relatively small, which may limit the generalizability of the findings. Thirdly, this study solely investigated differences in auditor judgment influenced by anchoring and adjusting, without considering other heuristic factors that might play a role. Lastly, gender was separated into broad categories of male and female, without further differentiation based on specific gender characteristics.

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