

# Analyzing the recency effects on long series audit information and its mitigation methods with group discussions

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## ABSTRACT

This study aims to examine the recency effect that occurs due to the effect of sequences on long series audit information and test the effectiveness of group discussion to improve the decision quality. The recency effect is a tendency to give more weight to the latest information compared to other information received. Therefore, it is necessary to provide a method for mitigating the recency effect by using group discussion. This study used a 2x2x2 experimental design for a subject with 81 participants from accounting students. The results show that the individual decision quality that experienced the recency effect due to positive-negative and negative-positive sequential information after group discussion became better than before group discussion. The individual decision quality that experienced the recency effect due to positive-negative simultaneous information could not be mitigated by group discussion. Group discussion is an effective method for overcoming the recency effect on sequential information rather than on simultaneous information. Therefore, group discussion can be used as a strategy to reduce recency effects and improve the quality of audience decisions.

## ABSTRAK

Penelitian ini bertujuan untuk menguji efek resensi yang terjadi karena pengaruh urutan pada informasi audit seri panjang dan menguji efektivitas penggunaan diskusi kelompok untuk meningkatkan kualitas keputusan. Efek resensi adalah untuk memberi bobot informasi akhir yang diterima lebih besar dari keseluruhan informasi yang diterima. Oleh karena itu, perlu diberikan suatu metode pemitigasian efek resensi yaitu dengan menggunakan diskusi kelompok. Penelitian ini menggunakan desain eksperimen 2x2x2 dalam subjek dengan 81 peserta dari mahasiswa akuntansi. Hasil penelitian menunjukkan bahwa: (i) kualitas keputusan individu yang mengalami efek resensi karena urutan informasi sekuensial positif-negatif maupun negatif-positif setelah diskusi kelompok menjadi lebih baik daripada sebelum diskusi kelompok, (ii) kualitas keputusan individu yang mengalami efek resensi karena urutan informasi simultan positif-negatif tidak dapat dimitigasi dengan diskusi kelompok, (iii) diskusi kelompok merupakan metoda yang efektif untuk mengatasi efek resensi pada informasi yang diberikan secara sekuensial daripada secara simultan. Oleh karena itu, diskusi kelompok dapat digunakan sebagai strategi untuk mengurangi efek resensi dan meningkatkan kualitas keputusan peserta.

## 1. INTRODUCTION

Decision making—individually—often based on the advice from other people or group members (Tin-dale, 2019). The literature related to decision making deals with two main factors, namely how much information is allowed to be reported and how final decisions are made. Hogarth and Einhorn (1992) state that the order effect occurs when individuals are presented with information for

decision making, and they will weight the initial information more significant than the following information. From this, the information can serve as the basis for decision making.

The order effect is an effect that occurs as a result of receiving sequence information. This condition is called the primacy effect. The next effect is the review effect, where individuals will weigh the final information more than the previous

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information, and this information, in turn, serves as the basis for decision making. The review effect has important implications for interpreting the evidence and how the judgments and choices will be made (Ashton and Kennedy 2002). The effect of the review on individual decision making can also affect the efficiency and effectiveness of ongoing audits (Ayuananda and Utami 2017).

Hogarth and Einhorn (1992) found that— in a long series of information— individuals tend to experience primary effects because they experience a decrease in attention when receiving further information. Rey, Le Goff, Abadie, and Courrieu (2019) also asserts that the long series of information, with positive preferences, will provide a substantial effect in decision making. Pravitasari (2016) confirms that there is a significant difference in the final assessment of participants who received good information followed by bad one compared to those who received information about bad news, followed by good news as well as the review effect occurring in investment decision making.

Pinsker (2007) provides an empirical finding that a short series of information mentioned that the information provided in the market is more often presented sequentially so that the review effect occurs. Further, Pinsker (2007) suspects that when information is presented in a long series, the primacy effects will occur. However, the results of the research prove that in such a process, it is the recency effect. Hogarth and Einhorn (1992) explain that short series information consists of 2 to 12 audit information, while the long series consists of 17 pieces of information or more.

In the audit context, the order in which audit evidence is processed from various sources of reliability. This, in turn, can affect the rationality of audit decisions (Patel 2001). Decision making by auditors can be influenced by the way they process and evaluate information, the auditor's behavior in obtaining information, and the complexity of the tasks in the audit process (Jamilah, Fanani, and Chandrarin 2007). Ashton and Kennedy (2002) provides empirical evidence that there is a phenomenon of review in the audit environment, and the bias that occurs can affect audit opinion. Review research related to the internal control system shows that when auditors are given information sequentially, they tends to experience a review effect (Ayuananda and Utami 2017).

Almilia and Supriyadi (2013) investigate the existence of the Belief Adjustment Model developed by Hogarth and Einhorn (1992) in investment decision making. The finding of this

study indicates a particular bias judgment, particularly a recency effect that becomes grater in the review information pattern is made consecutively. Almilia et al. (2013) also pre-sent that bias judgment, particularly recency effect occurrence, if the information was presented in a complex form.

Order effect, in the form of primacy or review, can result in bias in decision making. Biased decision making can significantly increase the cost of conducting audits because it involves extended audit procedures, legal liability, and a reduction in reputation levels. Therefore, the debiasing or mitigation is urgently needed (Ashton and Kennedy 2002). Mitigation is an attempt by the auditor to reduce bias in the independent decision-making process. Cushing and Ahlawat (1996) state that the review effect can be reduced by documenting, such as by comprehensively reading and understanding all available information.

Ways to mitigate review biases include a mechanism of debiasing, accountability, and documentation (Ashton and Ashton 1988). By reducing the bi-as, they expect to improve decision-making accuracy. Daigle, Pinsker, and Pitre (2014)) suggest that individual biases towards decision making can be eliminated because of market incentives by disclosing a long series of information.

The effect of primacy or review, if it occurs, can reduce the quality of audit decisions. This study proposes a way to reduce the order effect using the group discussion method in extended series information. Group discussion is a process of integration between two or more people to share information and solve the problems. Solomon (1982) mentions that the group is expected to be able to improve the quality of decisions. Chalos and Poon (2000) show that in group discussions, information sharing among each member has increased. The quality of group decisions is influenced by the extent to which individuals share the information received and the extent to which an individual's assessment of the information and its implications (Hollingshead 1996).

This research aims to provide empirical evidence that individual decision making after group discussions will improve the quality of decisions. This research is also expected to contribute to the auditing literature on the mitigation of order effects using group discussion. Practically, it is also expected to help the auditor to review financial statement reviews better and reduce the order effect when receiving information,

especially long series information so that it can make audit decisions more accurate, effective, and efficient. Finally, it is also expected to recommend a model of group discussion in the auditor's work.

## 2. THEORETICAL FRAMEWORK AND HYPOTHESES

The belief adjustment model developed by Hogarth and Einhorn (1992) explains that the order effect is influenced by the strategy of receiving information and the characteristics of the information the individuals received. The strategy of receiving information can be done sequentially (Step by Step/SbS) or simultaneously (End of Sequence/EoS). The characteristics of the information received can be in the form of mixed information (bad news followed by good news, or good news followed by bad news). All these can affect the strategy of receiving information; in the study, it showed the results of the review effect.

This model is based on an understanding of the limitations of individuals in receiving and processing information. In the process, individuals can adjust to the information that they have just received from a series of information provided in the market. This process starts from when the individual receives the initial information, and the individual will get a current belief called anchoring. Furthermore, if the individual is given the latest information, then he will likely revise his belief based on the information received, and this stage is referred to as the adjustment phase (adjustment).

In the process of receiving information, individuals have a limitation called bounded rationality. This condition is an individual's limitation in processing information systematically and rationally due to limited information, time, memory capacity (Nasution 2008). Therefore, individuals will simplify the process of receiving information and making decisions. This is called a heuristic strategy which, in practice, it results in a heuristic bias in the form of an order effect. This is because individuals no longer pay attention to the substance of information but rather focus on the order of information. Pinsky (2011) suspects that psychologically if an individual is given a long set of information, the individual tends to only look at the first information and when given the following information the individual will become confused or limit the information to only the initial information so that it can lead to a primacy effect. However, Pinsky (2011) shows that the effect that occurs is the recency effect, i.e., the individual is, in fact, more accepting and considering the latest

information received for the basis of decision making. The heuristic process occurs when information is weighted on the final information provided.

Theories about how groups try to induce shifting decisions over choices are explained by group-induced shift theory. In this theory, the individual will compare himself with others so that when there are differences. This will influence him to change his alternatives. Arnold, Sutton, Hayne, and Smith (2000) show that groups become more efficient in information retrieval strategies, although they tend to choose to speed up the decision-making approach. Kelly (2010) also proves that changes in information and decision quality are better if done in group incentives rather than individual incentives, although both incentives provide economic motivation. This is caused by the influence of psychological motivation that is stronger in individuals compared to economic motivation.

### The Effects of Sequence in Sequential Presentations and Group Discussions

The research model related to the order effect of information was adopted from Hogarth and Einhorn (1992). Information received can be in the form of positive information followed by negative information (++ -) or the other way around (- ++). These will affect decision making. Besides, the information presented can also lead to bias if it is related to the sequence effect. Related to the information presented, Pinsky (2007) states that the SbS revision of individual beliefs will occur after they are given some evidence in a separate set of information. Hogarth and Einhorn (1992) also reveal that in the presentation of SbS an individual is assumed to adjust his opinion gradually each time when the proof is processed. As an effort to reduce decision making bias, a perspective of group discussion is proposed. Therefore, there is a relationship between the sequence effect and the presentation of received long series following information and individual perspectives before group discussions with individuals after group discussions.

*H1a. When given sequential information, along with a sequence of positive and negative information in the long series of disclosures, those after group discussions will be better than those with the decision before group discussions.*

*H1b. When given sequential information along with positive negative information sequences in lengthy series disclosures, individual decisions after group discussions will be better than those before group discussions.*

### **The Effects of Sequence in Simultaneous Presentation and Group Discussion**

Hogarth and Einhorn (1992) define a simultaneous information presentation (End of Sequence / EoS) as a procedure for presenting information where individuals will only give an opinion after all information has been presented. In long-term disclosure, an individual must obtain 17 or more pieces of information so that he can give his opinion. Hogarth and Einhorn (1992) also mention that the EoS study involved experimental manipulation, which is very likely to influence audience opinion. The information available in the presentation of EoS can be in the form of positive information followed by negative information (++ -) or the other way around (- ++).

Hogarth and Einhorn (1992) state that in a particular condition, individuals would weigh more current information more critical than the previous information (review effect) and vice versa. In other conditions, the initial information presented sequentially has a higher weight in decision making (primacy effect). An assessment of information that has higher weight can be seen from the type of information that influences the individual the most. The primacy effect and the recency effect both reduce the decision quality. EoS bias is expected to be mitigated through group discussions. Therefore, there is a relationship between sequence effect and the simultaneous presentation of extended series information that an individual receives and individual perspectives before group discussion with individuals after group discussion.

*H2a. When given simultaneous information along with a sequence of positive and negative information in a long series disclosure, the primacy effect will occur, and individual decisions after group discussion will be better than individual decisions before group discussion.*

*H2b. When given simultaneous information along with a sequence of positive negative information in long series disclosures, there will be an effect of individual reviews and decisions after group discussion; it will be better than individual decisions before group discussion.*

### **The Effect of Presentation Patterns on Group Discussion**

Hogarth and Einhorn (1992) explain the critical difference between sequential (Step by Step / SbS) and simultaneous (End of Sequence / EoS), and the memory and time are used to process information. This difference indicates that the choice of using SbS or EoS disclosure patterns is determined by the effect of task characteristics on cognitive capacity. Pinsker (2011) shows that in the long series of information, each trial experiences review results. However, the reviewer effect is more dominant in the sequential disclosure pattern than the simultaneous disclosure pattern. For that reason, when mitigation is given to group discussion, the pattern of sequential disclosure will experience more of the effect of mitigation.

*H3a. The decision quality after group discussion to form a sequence of positive and negative information in the presentation of sequences will be better than a simultaneous presentation.*

*H3b. The decision quality after group discussion to form a sequence of positive and negative information in a sequential presentation will be better than a simultaneous presentation.*

## **3. RESEARCH METHOD**

### **Research Design**

This research was conducted using an experimental model. This experiment was carried out by providing intervention to the subject group while ensuring that the decision making after group discussion is only influenced by the presentation patterns (sequential and simultaneous) and sequence effects (positive and negative). The intervention was in the form of a research module containing a series of long-term information that was assessed by a group of subjects. Therefore. The data were considered primary data. The research design uses a 2x2x2 within-subject design.

### **Research Subject**

This study used accounting students as the subject. They were taking auditing courses because these students were considered a representative of auditors when assignments were given to junior auditors. The researchers selected them in groups using a randomization technique so that each student got the same opportunity to become a subject. Each group of subjects consists of 4 (four) to 5 (five) people. The data were collected in class simultaneously for all of them. In this study, they were simultaneously given different information

consisting of a way of presenting sequential and simultaneous sequences of positive and negative positive and positive.

### Tasks and Procedures

In this study, all subjects used paper and pens as their instruments. They answered the questions and provided an assessment based on the information contained in the research module, following the instructions given by the researcher. The entire work for each treatment was also carried out randomly.

The students were assumed to be a junior auditor who conducted an audit of the internal control system in the production and storage of goods. They were grouped into for discussing the assessment of information that would be provided

by the group. They were given an understanding of the role in the assignment as well as the profile of the company to be audited. After understanding the company pro-file, they were asked to do an initial internal control assessment before additional information was given. Furthermore, they were given information related to internal control in the production and storage of goods, and then they were also asked to conduct discussions in groups related to group assessments of information and internal control. After conducting discussions and giving an assessment of all in-formation, they completed the assignments and re-assembled the modules. They also debriefed it to explain the situation to the subject and return the subject to the initial situation.

**Table 1. Experiment Matrix**

	X	Y
Presentation Pattern	Effect of Order	Decision making Before Group Discussion      Decision making After Group Discussion
Sequential	Positive-Negative	1A      1A'
	Negative-Positive	1B      1B'
Simultaneous	Positive-Negative	2A      2A'
	Negative-Positive	2B      2B'
Sequential Simultaneous	Positive-Negative	3A
	Negative-Positive	3B

### Data Analysis Method

The data analysis technique consisted of 5 (five) testing stages. The first stage was done using the descriptive presentation of research subject data, then using the One Way ANOVA test (dependent variable was the final decision, and independent variables are such as age, semester, gender, and GPA) to test the effectiveness of randomization. After carrying out the effectiveness of randomization, the researchers performed the manipulation checks using the results of the subject's scores on the given five questions. If the subject gets a score of three or more, the subject is declared to have passed the manipulation check. The fourth stage was testing hypotheses one and two using the Paired sample t-test by comparing the quality of decisions before and after group discussion. The last step was testing the third hypothesis by using the One Way ANOVA test to

see the differences in interaction between two different behaviors, e.g., the behavior which has more effect on the quality of the decision.

### 4. DATA ANALYSIS AND DISCUSSION

This research used a manipulation check on understanding the roles, tasks, and audit material. Manipulation checks for understanding the roles and tasks consisted of 3 (three) questions. These questions were declared to pass if they answered 2 (two) or more questions correctly. Checking manipulation of understanding the material consisted of 5 (five) questions, and they were declared to pass if they answered 3 (three) or more questions correctly. The characteristics of each subject consisted of age, semester, gender, and GPA categories. Table 2 shows the characteristics of subjects who passed the manipulation checking.

**Table 2. Participant Characteristics**

Categories	Number (Students)	%
<b>Age</b>		
19	5	6
20	45	55
21	28	35
22	3	4
<b>Semester</b>		
6	79	98
8	2	2
<b>Gender</b>		
Male	16	20
Female	65	80
<b>GPA</b>		
<2,75	1	1
2,75-3,5	53	66
>3,5	27	33

The subjects who successfully passed the manipulation check were 81 people from also 81 participants. They consisted of 16 males and 65 females. The majority of subjects were 20 years old and were studying in semester 6. The subjects had the most GPA with a range of 2.75-3.5. This data shows that they have various characteristics. Table 3 shows the results of the test of characteristic differences.

**Table 3. The Test of Characteristic Differences**

		Mean Square	F	Sig.
Age	Between Groups	259.001	1.959	0.127
	Within Groups	132.189		
Semester	Between Groups	244.796	1.806	0.183
	Within Groups	135.579		
Gender	Between Groups	282.118	2.088	0.152
	Within Groups	135.107		
GPA	Between Groups	132.303	0.965	0.385
	Within Groups	137.063		

Source: The Output of the One Way ANOVA SPSS Test

One way ANOVA test indicates the randomization, and it shows that the characteristics of the sub-jects did not significantly affect the decision making of the audit. The characteristic group being used was age with a significance level of 0.13, semester, 0.18, gender, 0.15, and GPA, 0.38. These results prove that differences in individual characteristics (age, semester, gender, and GPA) do not affect individual audit decision making.

### The Test of Sequential Effects in Sequential Presentation and Group Discussions

Hypothesis 1a states that in the presentation of information, sequentially in the order of positive and negative evidence, the quality of individual decisions after group discussion is better than the individual before conducting group discussions to re-duce the effect of the reviewer. This test was done by using a paired sample t-test with the results, as shown in Table 4.

**Table 4. The Test of Hypothesis 1a**

	Mean	N	Standard Deviation	t-test (Sig. 2- tailed)
Sequential (positive- Before negative)	60.250	20	11.8627	0.003

The test shows that in the presentation of information sequentially (positive-negative), the average individual decision before conducting a group discussion is 60.25 and after conducting a group discussion is 51.25. It shows the reduced recency effect because individuals reduce the level of adjustment was made. The result also indicates the level of significance with a value of 0.003 with alpha 0.005. It means there are significant differences between individual decisions before conducting group discussions and after conducting group discussions. Therefore, hypothesis 1a is supported statistically. This finding supports Pashler dan Christenfeld (2013) that group decision making is seen as superior when compared to individual decision making.

Hypothesis 1b states that when individuals are given information using a sequential presentation along with positive negative information sequences, the quality of individual decisions after group discussions are better than individuals before group discussions to reduce review bias. The result as the test was done using the Paired sample t-test shows as in Table 5.

**Table 5. The Test of Hypothesis 1b**

		Mean	N	Standard Deviation	t-test (Sig. 2- tailed)
Sequential (negative - positive)	Before	60.750	20	10.295	0.028
	After	56.000	20	3.839	

The test of hypothesis 1b shows that the average value of individuals before conducting group discussions is 60.75, and the average value of individuals after conducting group discussions is 56.00 for presenting information sequentially with a positive-negative sequence pattern. This shows a decrease in recency bias. This test also shows a significance value of 0.025 (alpha 0.05) so that there are significant differences for individual decisions be-fore and after group discussions. Therefore, the hypothesis of 1b is statistically supported.

This research supports Zhao and Harding (2013), stating that if confronted with negative information, decision making by the auditor will be inversely proportional to decision making with positive information. The provision of information specifically can provide more accurate results when compared to providing information holistically (Utami, Kusuma, Gudono, and Supriyadi 2017).

Overall, Hypothesis 1 points to a review bias that is reduced by the process of mitigation in the form of group discussion. This can be seen from the average value of individual decisions after group discussions that are smaller than individual decisions before conducting group discussions. This means that individuals reduce the process of adjusting information. Review bias can be seen in the results of individual adjustments that tend to follow prior information values. This is in line with Pinsker (2007), revealing that individuals will revision their beliefs when they receive a separate set of information. The result of the final assessment of information also shows an improvement in the quality of decisions after group discussion.

The results of this study support research on group discussion methods for improvement in results. Kelly (2010) states that the quality of individual decisions will improve if done in the form of group discussions. Within the group, each shares information received and gave his opinion. By considering the come people's perspective in assessing information, the study shows the results of the assessment better. Besides, each group member also remembers the information received so that the results of the assessment do not emphasize the final

information. This shows that the review bias that occurs for the pattern of presentation of sequential information (SbS) can be reduced by the group discussion method to improve the quality of decisions.

#### **The Test of Sequential Effects in Simultaneous Presentations and Group Discussions**

Hypothesis 2a states that in testing the order effect for the simultaneous presentation pattern with a sequence of positive and negative information, the primacy effect would occur. In order to reduce the effects of primacy, the group discussion method was used. By conducting group discussion, it can make the quality of individual decisions, after group discussion, better than the individual before conducting group discussion. Statistical test results using a Paired sample t-test can be seen in Table 6.

**Table 6. The Test of Hypothesis 2a**

		Mean	N	Standard Deviation	t-test (Sig. 2- tailed)
Simultaneous (positive- negative)	Before	72.778	18	10.877	0.033
	After	78.889	18	7.962	

The test shows that there is a significant difference ( $p = 0.033$ ) between the quality of individual decisions before and after group discussions. The average quality of the decision before group discussion is 72.78 and is 78.89 after the discussion. There-fore, hypothesis 2a is not supported statistically be-cause the average value of decisions after group discussion is higher than before group discussion. This is in line with Shepardson (2019), stating that group decision making will be consistent with individual decision making.

Hypothesis 2b states that in the presentation of information in a simultaneous form and positive-negative sequence, there will be a review effect and affect the quality of decisions. The quality of individual decisions after group discussion is better than before group discussion to reduce the effect of the review. The results of this study are consistent with Haryanto (2018), mentioning that interaction between the sequence of evidence and decision results occurs, which indicates a shift in individual group decisions in influencing audit results. The results of statistical testing using paired sample t-tests can be seen in Table 7.

**Table 7. The Test of Hypothesis 2b**

		Mean	N	Standard Deviation	t-test (Sig. 2- tailed)
Simultaneous (negative - positive)	Before	70.000	23	9.170	0.002
	After	76.087	23	2.109	

Table 7 shows the test explaining that there is a significant difference ( $p = 0.002$ ) between the quality of individual decisions before and after group discussion. The average value of individual decisions before group discussion is 70.00 and is 76.09 after the group discussion, which means that hypothesis 2b is not supported statistically. It is due to the evidence that the average value of decisions after group discussion is higher than before conducting group discussions. Auditors have restrictions in the code of ethics that need to be adhered to so that decisions on audits are based on professionalism.

Overall in this study, individuals experienced a primacy effect when receiving information with a sequence of positive and negative information and the effect of the reviewer on positive negative information. This is because when the sequence of information is positively-negative or negative-positive, the individual focuses more positively on the pattern of simultaneous presentation because individuals can directly compare the whole between positive and negative information and then make an assessment. Individuals do not make too many adjustments to the point where they can focus on the content of information received, even though the amount of information is quite a lot.

When individuals are confronted with a series of negative information, the individuals do not reduce the value of the company drastically but still consider positive information. The results of hypothesis testing are in line with Pinsker (2011), stating that the simultaneous information presentation (EoS) pattern of individuals will experience reviewer bias for positive negative sequences. Furthermore, the results of this study indicate that group discussion is ineffective in overcoming the effects of recency on the simultaneous presentation pattern.

This study found that group interaction heightened the tendency of initial group member decisions. The results of this study support Rutledge and Harrell (94), mentioning that under certain conditions, group decisions will become more extreme in the same direction as individual pre-

discussion decisions. This research also supports Isenberg (1986), stating that group interaction makes group members move risk positions in the same direction farther from the neutral point.

The existence of group discussions on subjects experiencing a low review effect (i.e., when receiving information given simultaneously), they did not prove useful. Under conditions of receiving simultaneous information, individuals tend to experience the effects of primacy. Group discussion is not able to change an individual's initial decision (anchor). It is possible that the information provided simultaneously influences the cognitive aspects of individuals strongly. Group discussion is not able to change information that the subject believed in the first place.

### The Test of the Effect of Presentation Patterns on Group Discussion

Hypothesis 3a states that in mitigation efforts, subjects who are given information in a positive-negative sequential presentation pattern will have fewer effect resistances than those who are given information in a negative-positive simultaneous presentation pattern so that the quality of their decisions will be better. Testing was done using the One Way ANOVA test. The results can be seen in Table 8.

**Table 8. The Test of Hypothesis 3a**

	N	Means	Standard Deviation	F
Sequential Positive- Negative	20	51.250	9.159	0.000
Simultaneous Positive- Negative	18	78.889	7.962	

Table 8 shows that the average value of decision quality for sequential presentation patterns is 51.25 and simultaneous is 78.89 with a significance of 0.000. This test shows that the revision of belief in sequential presentation patterns is less than sequential presentation patterns and reduces review bias so that the quality of decisions is better than before. Thus, hypothesis 3a is supported statistically.

The last hypothesis that is hypothesis 3b, stating that subjects who are given information in a positive-negative sequential presentation pattern will experience more mitigation than those who are given information in a positive-negative simultaneous presentation pattern so that the quality



of the information will be better. The test was done using One Way ANOVA, and the results can be seen in Table 9.

**Table 9. The Test of Hypothesis 3b**

	N	Mean	Standard Deviation	F
Sequential Negative- Positive	20	56.000	3.839	0.000
Simultaneous Negative- Positive	23	76.087	2.109	

Table 9 indicates that the average value of decision quality for sequential presentation patterns is 56.00 and simultaneous is 76.09, with a significance of 0.000. This test shows that the revision of belief in the simultaneous presentation pattern is more than the sequential presentation pattern, which means that the revision of belief in the sequential presentation pattern is less so that it reduces the review bias and the decision quality is getting better. Therefore, hypothesis 3a is supported statistically.

The results of this study support Pinsker (2011), stating that the review bias is more dominant in individuals who are given information with a sequential rather than simultaneous presentation pattern so that when given a form of mitigation, the sequential presentation pattern will experience more improvement in the quality of decisions. In this study, there is a higher review bias in individuals who receive sequential patterns of information presentation. This happens because, in the sequential pattern of information presentation, individuals make more adjustments to the newly received information.

If the information was provided sequentially and when individuals initially receive information, they gave the initial information as the anchor. When the following information is given, the anchor's decision changes because the individual tends to make the decision based on the latest information received. In the condition of receiving information sequentially, the information provided in a positive sequence followed by negative will encourage individuals to weigh the most recently received information. In the opposite condition, when information is given simultaneously, the final decision will weigh the last information smaller than when the information is given sequentially. That is, the condition of the recency effect will tend to occur

when conditions of information are given sequentially with positive-negative sequences compared simultaneously with positive-negative sequences.

Review bias on sequential presentation patterns was successfully reduced using group discussion. Simultaneous presentation patterns undergo reconsideration and primacy results for different sequence forms but do not experience mitigation. Overall, Hypothesis 3 shows the results that the quality of individual decisions after group discussion for sequential presentation patterns is better than contemporary presentation patterns.

## 5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

This study concludes that there is the quality improvement of individual decisions after group discussions when given long series information with sequential presentation patterns and positive or negative sequence information. There is no quality improvement for individual decisions after group discussions when given a long series of information with simultaneous presentation patterns and forms of positive or negative positive information because the results of the discussion reinforce individual initial decisions. The mitigation process is more pronounced for individuals who receive sequential information patterns in forms of positive or negative positive information than any other information patterns.

This research proves, when individuals receive information in stages so that many stages of adjustment are made, the order effect can be reduced by auditing assignments conducted in the form of group discussions among members of the auditor. When a group discussion is done, information sharing occurs between each group member so that every information received can be remembered and considered for decision making. Sharing information among group members can overcome individual memory, time, and capacity constraints. For that reason, group discussion can be a strategy to reduce order effects and improve the quality of audience decisions.

It can be implied that this research provides a theoretical implication that group discussion can improve decision quality. This research also contributes to behavioral research in testing the order effect. It supports the results of Pinsker (2011) and Arnold et al. (2000), stating that there is a review effect occurring in long series audit information so that it affects the decision quality. Kelly (2010) also shows that groups become more efficient in

information search strategies and improve decision quality.

Theoretically, this study provides a contribution related to the belief adjustment theory. It is the order effect experienced by the auditor in response. This research is expected to balance the leadership of the Public Accounting Firms to train auditors in the model of group discussion or group work to reduce the effect of review when receiving information. This is very especially for extended series information. Therefore, audit decisions made are increasingly accurate, effective, and efficient.

The main limitation of this study is the discussion carried out in a short time and particular some people who were dominant in group discussions. Research can be developed by mitigating the review effect in small and large group sizes. Besides, it can also be developed with online-based discussion methods to adjust the development of communication technology in the industrial era 4.0.

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