

Preference by Gender among Z Generation on Risky Decision: A Survey on Business and Economics Students

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ABSTRACT

Facing the uncertain condition might lead an individual's decision to the risk of loss. This study analyzed the choice by the Business and Economics students toward risky decisions based on gender. Regarding the risk of loss, an individual might have their own way to make the decision. On the other hand, the different ways of thinking between male and female might lead to different behavior in making decision regarding the risky choice. A survey using convenience sampling that contains some questions regarding gain or loss scenarios and uncertain conditions was distributed to the respondents. The survey was conducted among 179 students from the Faculty of Business and Economics aged 18 – 24 years old (Z Generation) as the respondents and then mapped based on gender. The difference in making decisions based on gender was shown in the framing of contingencies and framing of outcome illustrations. The overall result for framing of contingencies also showed the distinctive result, but still, in the same pattern.

Keywords: Risky Decision, Risky Choice, Gender, Z Generation.

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1. INTRODUCTION AND RESEARCH BACKGROUND

In everyday life, humans are inseparable from decision-making activities; for example, the simplest is the purchase decision. These simple activities often involve deep and long thought. The thing that underlies this simple decision is based on rational thinking and other aspects, such as emotions. The more complex aspects of human life develop, the more complicated it is for humans to make decisions from several existing choices. An uncertain environment and imprecision related to real-world problems are complex tasks in decision-making activities (Avrachenkov & Sanchez, 2002).

The issue in decision making might arise from act or preference among which one must choose the possible outcomes, and the contingencies (Kahneman and Tversky, 1981). In theory, issued by Kahneman and Tversky (1979), it is explained that problems in decision-making often occur, especially when the decisions taken do not only consider the rational aspects and certainty but also the element of uncertainty in them. Uncertainty is a condition where knowledge of a particular situation needs to be adequately available (McGrath, 1976). Lack of processing data and uncertain information will have a negative impact on the results of decision-making activities (Simon, 1990).

Human rationality is always the fundamental assumption of decision as a part of individual's daily activities. Kahneman (2011) explains that a decision is closely related to consideration and evaluation in humans psychologically due to an uncertainty factor. Kahneman and Tversky (1979) emphasize that individuals assessing and choosing an alternative are not always consistent and rational. Hey (1993) revealed that uncertainty creates fear and doubt, causing bias that interferes with rational decision-making. In addition to the uncertainty factor, irrational decisions made by an individual can be influenced by various factors. The result of this irrational decision creates difficulties in decision-making. One aspect that affects the quality of decision-making is psychological pressure (Philips & Adya, 2020). Rahman and Gan (2020) explain that an increase in psychological behavior is needed to prevent irrational decisions and not cause behavioral biases to reduce risk.

Prospect theory is then used to describe how individuals make decisions when there are uncertain conditions and what the consequences of their choices are. Furthermore, there are terms of profit and loss in making decisions. When faced with certain losses and uncertain losses, they will tend to choose uncertain losses in the hope that there is still a possibility for them to gain profits and overcome possible losses (Kahneman & Tversky, 1979). In its development, individuals exposed to risk are classified into risk-averse, risk neutral, and risk seeking.

Several factors make an investor risk-averse, risk-neutral, or risk-seeking. One of them is the demographic factor of everyone. Sarkar and Sahu (2018) explained that each individual has their uniqueness, which influences differences in decision-making from other individuals. Baker *et al.* (2019) argues that demographic factors, especially related to gender, influence differences in individual decision-making. The same thing was expressed by Hsu *et al.* (2020), where gender influences decisions related to risk. Study by Cupak *et al.* (2020) explained that judging from gender differences, men are more courageous in taking risks compared to women, who tend to be more emotional and risk averse. Women are individuals who are less overconfident and more risk averse. They are also more intuitive decision-makers, especially when planning investment activities (Hira & Loibl, 2008)

Regarding gender, a survey done internally in Deloitte Consulting as cited in Harvard Business Review article by Benko and Pelster (2013) showed in result that 70% of the senior managers confess that selling to women was different from selling to men. The data also showed that work occupation for women in managerial and professional position is about half (about 37% of management jobs and 60% of accounting and auditing roles, according to the Bureau of Labor Statistics) of the entire position, and its is made up to 41% in jobs involving the authority of purchasing decisions (Benko and Pelster, 2013).

Moreover, Benko and Pelster (2013) stated that men have the tendency to terminate conversation to the end once they come up with a idea or solution. Reversely, women are inclined to be more inquisitive and thoughts-heard before deciding. Women also require more time finding the ideal solution. This phenomenon leads to a conclusion that men and women have different approaches when it comes to a decision, respectively.

This research focuses on business and economics faculty students who belong to Generation Z. Business and economics students generally have more opportunities to learn about risk, one of which is in finance courses. Students with a background in economics and business have more opportunities to understand financial science by studying courses related to this science, for example: financial management, investment and portfolio theory, valuation, risk management, and more.

Furthermore, in Indonesia itself, many Stock Exchange Corners have been established for business and Economics faculties. According to Hermanto (2017), having an Stock Exchange Corner (Pojok Bursa) in the business and economics faculty aims to bring knowledge about capital markets closer to students, especially students from the business and economics faculty. It is hoped that the Stock Exchange Corner will increase knowledge about investment (risk and return) and become a vehicle for information so that students are more interested in becoming investors. Hamonangan (2007) in his research explains that students majoring in accounting are interested in investing in the capital market. This finding is also supported by the findings of Yuwono (2011) and Raditya (2013), where sufficient knowledge possessed by business and economics students at both undergraduate and postgraduate levels is necessary to understand investment activities. Students with this background gain an understanding of the level of risk and return in decision-making.

Investment education is a perception of the knowledge given to students by universities or outside parties regarding investment in the capital market, one of which is education regarding the risks of investing (Riyadi, 2016). The research chose students with a business and economics faculty background because it follows the application of the Theory of Reasoned Action in Hermanto's (2017) research that decisions to act in carrying out investment activities are driven by the information given to students regarding risk and return in the capital market. This basis assumes that business and economics faculty students will better understand decision-making based on risk. Apart from this, the selection of samples from business and economics students is expected to enrich findings related to the science of risk perception because they are the individuals who will manage the risks of their companies/businesses in the future.

The perception of risk by students from other fields of science is also similar to the results of research by Carducci et. al (2019) explains that the perception of risk by health science students is based on the information/education they obtain, the environment, socio-demographics, and the literacy they possess. Students will tend to be careful to avoid health risks to the environment around them. However, this research was conducted on economics and business students because the focus of this research was to look at psychological factors that influence decision-making related to risk, where behavioral finance as a form of prospect theory plays a role in irrational and inconsistent decision making (Khan & Chinnasamy, 2022). This research wants to see how risk-based decision-making adopted by Kahneman and Tversky (1981) is closely related to financial decision-making.

On the other hand, the Z Generation concept was used in this study to enrich the explanation regarding their specific general characteristics. Z Generation can be identified by their year of birth (1995-2010) and their characteristics regarding some aspects such as generational aspects, technology, global, information needs, education, and social (Lev, 2021). Gen Z is famous for his or her independence in making decisions. Their access to information via the internet might influence their decision activity. Concerning the type of risk-taking, Gen

Z has characteristics that are more risk-averse than the previous generation (Tulgan, 2013). The same thing was also expressed by Rosdiana (2020) in which it stated that Gen Z tends to be careful in carrying out investment activities so that it can be said a generation that is risk averse. Based on the research background, this study analyses the decision and choice made from the perspective of gender on the risky decision.

Meanwhile, Gen Z is known as a wise generation who will be more careful in taking risks, especially on social issues. They will think more about risks and choose the right and wise decisions. Willingness to take risks varies at the individual level/specific group level due to cultural differences (Marjerison *et al.*, 2023). Segel and Hatami from McKinsey & Company (2023) explained that the Generation Z group is more risk averse when making decisions, especially investment decisions, and even more pragmatic compared to millennials. Apart from investment activities, Gen Z will be cautious in making risky decisions related to their careers. Kasali (2018) explains that individuals from Generation Z tend to be more selfish, slow, and difficult to criticize.

Interestingly, with its risk-averse nature, Gen Z has shown increasing interest in entering the world of investment in the cryptocurrency market during the pandemic, which we know has a very high level of risk (Tamtomo *et al.*, 2023). Even research conducted by Lavelle, Yamamoto, and Kinnen (2022) explains that crypto is not an asset that meets the requirements for a haven in times of extreme volatility. Suitable investment activities are not closely related to the role of a rational investor's investment behavior. Gen Z, with its risk-averse nature, shows exciting results because it is contrary to the high-risk nature of the popular asset (cryptocurrency). This is interesting because irrational attitudes, such as in a study by Kahneman and Tversky (1981), may occur in this generation regarding decision-making. Nofsinger (2018) states that overconfidence makes individuals feel they have much knowledge, so they tend to ignore investment risks. This may happen because those aged eight to 25 years (currently Gen Z) are not yet fully able to control their emotions, so they are not stable enough. This emotional instability influences a risk-averse person's risk-taking activities (Tamtomo *et al.*, 2023). Research related to the risky decisions of Gen Z has yet to be carried out compared to other generations, even though currently, especially in the future, many managerial and investment-related decisions involve this generation.

Moreover, the previous study by Iswari (2019) explored the similar phenomenon on decision making within the framework of its differences based on personality types. However, previous research by Iswari (2019) was only limited to the accounting students as respondents. Gender, as explained, might be considered as one of the factors to differentiate choice among people. For some reasons mentioned previously regarding the difference in gender in deciding, enhanced with the special characteristic in Generation Z, this study wants to focus on the difference in decision making based on gender within Z Generation people using the students of business and economics as respondents to broaden and enhancing the scope of research.

2. LITERATURE REVIEW

2.1 Expected Utility Model and Prospect Theory in Decision Making

Kahneman and Tversky (1979) as cited in Heukelom (2011) explained the concept of expected utility theory as the most common theory used in decision making under risk as

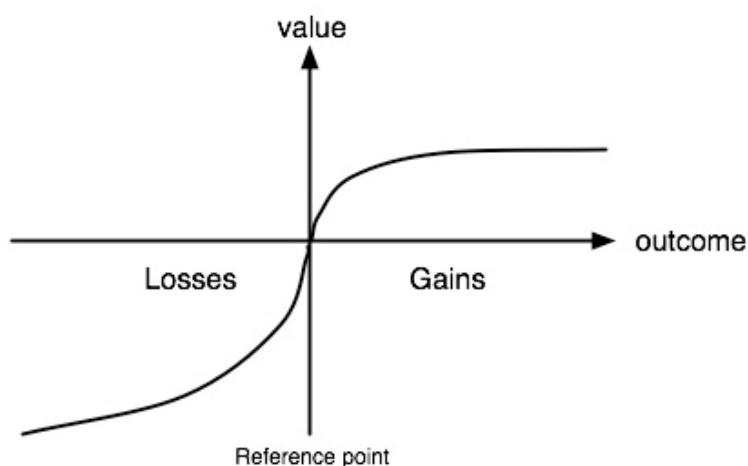
a normative model of rational choice. Moreover, Forbes (2009) explained that expected utility theory is used to explain the decision among investors. The expected utility theory by Kahneman and Tversky as cited by Forbes (2009) suggest that in uncertain conditions, such as in investing activity, the person (e.g., the investor) should evaluate prospects through and editing framing stage and more detailed evaluation of the prospect as two consecutive steps. In contrast, Li and Ling (2015) stated that due to limited knowledge, an individual is not competent to make the decision perfectly in accordance with rational principle in the time span of lack of knowledge and unforeseen risk. This condition led to the consequence that expected utility theory could not stand in line with decision making. (Li and Ling, 2015)

The theory by Kahneman and Tversky (1979) explains that decision-making has gains and losses. When a person faces certain and uncertain losses, he will tend to choose uncertain losses in the hope that he can still gain profits and overcome possible losses. In contrast, when faced with the certainty of profit and the supply of benefits, someone will choose the certainty of profit (Kahneman & Tversky, 1979).

Kahneman and Tversky (1979) later evaluated the concept of decision making under condition of risk and suggested that it can be viewed as a choice between prospects or gambling. Tversky and Kahneman (1986) as cited by Tversky and Kahneman (1992) explained that prospect theory consists of two different phases in process of choosing: framing and valuation. While framing represents the acts, contingencies and outcomes that are relevant to the decision, valuation represents the value assessment of each prospect and then choice activity according to the assessment (Tversky and Kahneman, 1992).

In prospect theory, the starting point is analyzing a person's behavior in making (economic) decisions between two choices. Prospect theory suggests that people value losses and gains in a different light. Prospect theory shows that people tend to avoid losses because they feel more devastated by losses than they think about the benefits they get (Kahneman & Tversky, 1979). The relationship between the psychological assessment of gains and losses is described in the form of a graph of the following hypothesis value function:

Figure 1- Value Function Hypothesis from Prospect Theory



Source: Adopted from Kahneman and Tversky (1979)

Based on Figure 1 above, according to Schwartz (2007), the curve above can show an individual's objective and subjective state. The objective state is along the horizontal axis. Objective circumstances describe the condition of the individual gaining or losing something. The vertical axis is the subjective axis which describes the individual's psychological response when certain conditions occur (Schwartz, 2007). The curve shows how the predicted psychological value will deviate from its actual value. In the profit quadrant curve, an increase in profits will reduce the psychological value of the individual. In the loss quadrant, the curve looks steeper, illustrating that losses are weighed more heavily than gains. That is, each additional loss will be less meaningful for the individual (Kahneman & Tversky, 1979)

2.2 Gender and Z Generation in Decision Making

Personal characteristics could be one of the variables that control the framing in the decision partly (Kahneman and Tversky, 1981). Gender could be considered as one of the personal characteristics that are attached to an individual. Gray (1992) as cited in Delaney, et. al (2015) stated that fundamentally men and women are different: women are stereotyped as intuitive individual, while men as rational. Some studies (Darley and Smith, 1995; Sistruck and McDavid, 1971; Aronson, 1972; Worchel and Cooper, 1976) as cited in Laroche, et. Al, 2000) explained the difference between male and female in making decisions since both genders have different social roles that lead to different social pressures. Females are more conform and more influenceable; while men are taught to be independent thinkers and to assert themselves, women are not pushed to do so.

Consequently, the gender-based decision could be different. Another stereotype stated that woman as interpersonally oriented and men as self-reliant show the different scope in involving other while making the decision (Gilligan, 1982; Tannen, 1991 as cited in Delaney et. al, 2015). Another study by Byrne & Worthy (2016) as cited by Villanueva-Moya and Exposito (2021) found that gender show the difference output in decision making: women process the information in integrated way, using all information in an environment even though it might lead them into disadvantageous decisions, while men will process the information selectively and use the information specifically to give them beneficial results. The difference between female and male in processing information also showed in a study by Laroche, et. al (2000) as cited in Benko and Pelster (2013) in which it stated that female buyer acquires information comprehensively, while the male buyer tends to be more mission- and task-oriented buyer.

Koulopoulos and Keldsen (2014) explained that generation itself is a terminology that refers to a group based on the same age and experiences or will experience similar life experiences so that it is possible to form a similarity of life within its generation. Culpin *et al.* (2015) and Koulopoulos and Keldsen (2014) explained that those who belong to Generation Z were born from 1995 to 2015. In Indonesia itself, Generation Z is the generation that lived during a recession and during times of uncertain economic conditions (Dwidienawati & Gandasari, 2018). Given these conditions, Gen Z is formed into a more realistic generation compared to Gen Y and becomes a generation that tends to be more risk-averse than the previous generation (Tulgan, 2013). Tulgan (2013) also explained that Gen Z tends not to have too high expectations, confident but cautious. The same thing was conveyed by Singh (2014), where several individual characteristics are in Gen X, which

include being prematurely mature and risk averse. The study from Dwidienawati and Gandasari (2018) also strengthens the statement above that Gen Z in Indonesia tends to be realistic and requires security and stability, so it can be said to be risk averse.

2.3 Framing and Decision Making

Decision making could be defined as the process of choosing a course of action for solving a problem or seizing an opportunity, in which it usually involves two or more possible alternatives. In organizational level, the decision-making process involves three elements: information, intelligence, and imperative (French, et. al, 2015). On the individual level, the key issues that might arise in the matter of decision making are related to the limitation to information and personal biases (Buchanan and Huczynski, 2017). In addition, some behavioral factors could influence on decision making process such as values, propensity for risk, potential for dissonance, and escalation of commitment (Ivancevich, et.al, 2014)

One of the approaches in defining decision in individual is rational model of decision making in which it involves the steps from recognition of a problem or opportunity until implementation of preferred alternative (Buchanan and Huczynski, 2017). This approach involves some assumptions such as: all alternatives will be considered, the consequences of each alternative will be considered, accurate information about alternatives is available at no cost, and decision makers are rational ((Buchanan and Huczynski, 2017). The decision toward uncertain condition made by an individual could be complex and involve many variables. As mentioned previously, the problem in making decisions in uncertain conditions could arise from the chosen act or option, the consequences of those acts, and the contingencies (Kahneman and Tversky, 1981).

Moreover, Kahneman and Tversky (1981) defined the term framing in decision making as conception of act, outcomes, and contingencies associated with particular choice made by decision makers. The study by Kahneman and Tversky (1981) proposed some illustrations in reflecting the effect of variations in framing, the framing of act, the framing of contingencies, and the framing of outcomes. In this study, the currency used in the previous study by Kahneman and Tversky (1981) was adjusted into Indonesia Rupiah (IDR). The respondents should decide which option will be chosen according to their perception. The illustrations can be seen in Appendix 1.

3. RESEARCH METHOD

This quantitative descriptive study uses convenience sampling in the data collection method through the survey conducted. This research activity used a questionnaire whose question items were adapted from previous research by Kahneman and Tversky (1981). Diocesan collection activities were carried out online and offline to several respondents within the criteria: active student of Faculty of Business and/or Economics.

The questionnaire used contained two main parts, namely questions related to the respondent's criteria (gender, age, university origin, income, and education) and questions related to items related to the framing of each individual's actions (set out in 11 problems). Any of USD currency occurred in the previous study by Kahneman and Tversky (1981) were adjusted to the IDR currency with the assumption that 1 USD equals to 10.000 IDR.

Students from several universities in Indonesia, namely Universitas Atma Jaya Yogyakarta, Telkom University, Universitas Dian Nuswantoro, Universitas Kristen Duta Wacana, Universitas Kristen Satya Wacana, Universitas Jendral Soedirman, and Universitas Negeri Semarang participated in this research activity. There was a total of 189 respondents, and after being processed, there were 179 respondents who could be processed statistically. Each problem illustration (all types of framing) will be mapped based on gender and the proportion of each option available.

4. RESULT AND ANALYSIS

4.1 Descriptive Analysis

Survey is conducted by convenience sampling and 179 (one hundred and seventy-nine) Business and Economics students from several universities as the respondents (the total number of respondents is denoted by N, in which in this study the compilation data showed the amount of N = 179) fulfilled the questionnaire items that reflects the scenario of risky decisions. The characteristics of respondents are shown in the following table:

Table 1 – Characteristics of respondents based on several criteria.

Criteria		N	Percentage (%)
Universities	Universitas Atma Jaya Yogyakarta	140	78.21%
	Telkom University	3	1.68%
	Universitas Dian Nuswantoro	13	7.26%
	Universitas Kristen Duta Wacana	9	5.03%
	Universitas Kristen Satya Wacana	4	2.23%
	Universitas Jendral Soedirman	9	5.03%
	Universitas Negeri Semarang	1	0.56%
Gender	Female	110	61.45%
	Male	69	38.55%
Age (Years old)	17	2	1.12%
	18	35	19.55%
	19	55	30.73%
	20	47	26.26%
	21	26	14.53%
	22	11	6.15%
	23	3	1.68%
Income (In IDR)	< 1.000.0001	70	39.11%
	1.000.001 - 2.500.000	68	37.99%
	2.500.001 - 4.000.000	29	16.20%
	4.000.001- 5.500.000	7	3.91%
	5.500.001 - 7.000.000	1	0.56%
	> 7.000.000	4	2.23%
Education	D3	7	3.91%
	S1/D4	167	93.30%
	S2	4	2.23%
	S3	1	0.56%

Source: Primary data (N = 179)

Based on the table above, from the characteristics of the respondent's faculty, all respondents came from the Faculty of Business and Economics students, totaling 179 (100%). Respondents came from several universities, namely Universitas Atma Jaya Yogyakarta with 78.21% of the total respondents, Telkom University with 1.68%, Universitas Dian Nuswantara with 7.26%, Universitas Kristen Duta Wacana with 5.03%, Universitas Kristen Satya Wacana with 2.23%, Universitas Jendral Soedirman with 5.03% and finally Universitas Negeri Semarang with 0.56%. Based on gender, the respondents in this study were more dominated by female respondents, 61.45% of the total respondents and 38.55% of male respondents.

Based on the age of the respondents at the time of data collection, the majority of research respondents were dominated by those aged 19 years, as many as 55 people (30.73%), followed by those who were 20 years old with 26.26%, then 18-year-old respondents as many as 35 people (19.55%), then those who were 21 years old were 11 people (6.15%), 23-year-old respondents were three people (1.68%) and finally 17-year-old respondents were two people (1.12%). Based on their income, respondents with an income of less than 1 million rupiah dominated the respondents in this study, namely 39.11% of the total respondents, and the least were respondents who earned around 5.5 million to 7 million, namely 0.56%. The last characteristic is based on the education currently being undertaken, so in this study, almost all the respondents came from those currently carrying out undergraduate education, namely 167 respondents or 93.30% of the total respondents in this study, while the rest of respondents were carrying out others level of education either Diploma III, Master, or Doctoral Degree.

4.2 Framing of Act and Outcomes

After knowing the characteristics of the respondents in this study, the researcher conducted an analysis related to the data on the answers from the respondents. From the question items asked, the following are the findings of each problem. As the survey is done, the data gathered from respondents will be mapped based on gender. The result on every scenario is as the followings:

a) *The effect of Variations in Framing*

There are two scenarios that are used for reflecting the effect of variation of framing, illustrated in Problem 1 and Problem 2. The illustration can be referred to Appendix 1. The result of the survey can be seen in Table 2 as the following:

Table 2 – The result of survey based on gender toward the effect of framing.

Problem 1			Problem 2		
	A	B		C	D
Female	36.87%	24.58%	Female	21.79%	39.66%
Male	22.35%	16.20%	Male	15.08%	23.46%
Total	59.22%	40.78%	Total	36.87%	63.13%

Source: Primary data (N = 179)

As can be seen on the table, in Problem 1, the respondents most likely to choose Program A (59, 22%). Reversely, in Problem 2, most of the respondents have a preference to choose Program D (63, 13%). Scenario in Program A gives a certain amount of saved people in which it is compared to Program B that gives the certain opportunity that all the people will be saved. Meanwhile, Program D gives the scenario that some people will be saved for sure, and Program C gives the exact amount of dead people.

The survey result is in accordance with the study by Kahneman and Tversky (1981), in which most of the respondents will tend to be more risk averse toward the choice involving gain and tend to be more risk taking towards the choice that involves loss. This illustration later was discussed in the study by Kahneman (2003) explained that it showed the different association and evaluation, in which the certain amount of saving people is attractive, and certainty of deaths is aversive.

On the other side, based on gender, there is no difference between male and female students for making the decision since the percentage is following the percentage in total.

b) The Framing of Acts

In measuring the framing of acts, the respondents were asked about two conditions that occurred (the questions items could be referred to Appendix 1). The survey result shown in Table 3 and Table 4 below:

Table 3 – The result of survey based on gender toward the framing of act (1)

Problem 3A			Problem 3B		
	A	B		C	D
Female	38.55%	22.91%	Female	22.91%	38.55%
Male	24.58%	13.97%	Male	17.32%	21.23%
Total	63.13%	36.87%	Total	40.22%	59.78%

Source: Primary data (N = 179)

These illustrations in Problem 3A and 3B are taken from the previous study by Kahneman and Tversky (1981). Decision in Problem 3A illustrates the sure gain and possibility of gain, while in Problem 3B it showed the sure loss and the possibility of sure loss. Both questions are assumed to be chosen in separate conditions. The result, as can be seen on both tables, the majority in Problem 3A, respondents will choose the sure gain conditions (Choice A) as a preferred choice since it shows the riskless prospects. Reversely, in Problem 3B, the respondent will tend to be risk averse towards sure loss condition (Choose C) and most respondents made another choice as preference (Choice D). This result is in accordance with previous study by Kahneman and Tversky (1981).

In addition, based on gender, in both problems, there is no difference between male and female respondents since the percentage in both genders are following the amount of percentage in total, respectively.

Table 4 – The result of survey based on gender toward the framing of act (2)

Problem 4		
	1	2
Female	22.35%	39.11%
Male	14.53%	24.02%
Total	36.87%	63.13%

Source: Primary data (N = 179)

The illustration in Table 4 combines the choices presented in Problem 3A and Problem 3B. Both problems were presented together. Choice 1 is the combination of choice A and D in Problem 3, meanwhile the Choice 2 is combination of Choice B and C in which both problems in previous study by Kahneman and Tversky (1981) was being the most common and least pattern from the set of choices, respectively. The result showed that most respondents prefer Choice 2 (combination of Choice B and C). This result is in accordance with previous study by Kahneman and Tversky (1981). Moreover, in problem 4, similar with both previous problems (problem 3A and 3B), there are no differences between male and female respondent. The results in both genders are following the total percentage, respectively.

c) *The Framing of Contingencies*

The framing of contingencies is measures using three illustrations problems based on the study by Kahneman and Tversky (1981). However, in this study, respondents were only asked regarding their opinions toward the situation occurred in the illustration. The questions for illustrating the framing of contingencies could be referred to Appendix 1). The result of the survey is shown on the following tables:

Table 5 – The result of survey based on gender toward the framing of contingencies (1)

Problem 5			Problem 6		
	A	B		C	D
Female	22.35%	39.11%	Female	34.64%	26.82%
Male	15.08%	23.46%	Male	25.14%	13.41%
Total	37.43%	62.57%	Total	59.78%	40.22%

Source: Primary data (N = 179)

In Problem 5 from Table 5 shown above, most respondents made the preference to the choice B (80% chance to win a certain amount of money). The result is in contrary with previous study by Kahneman and Tversky (1981) in which the previous study shown the result that most respondent choose choice A (a certain win for some amount of money). It can be said that the respondent was not affected with the effect of contingencies framing.

In problem 6, the respondents were considering a two-stage game in which the choice will be made before the outcome of the first stage is known. Most respondents in this illustration make a preference for choice C, in which it is in accordance with the previous study by Kahneman and Tversky (1981).

Furthermore, a study by Kahneman and Tversky (1981) stated that Problem 5 and Problem 6 are different by the introduction of preliminary stage. By the assumption that the second stage of game is reached, the problem is reduced to problem 5, while if it is not, the decision does not affect the outcome (Kahneman and Tversky, 1981).

Regarding gender, in both problems, the percentage of both genders are following the total percentage. Hence, it can be said that in the framing of contingencies, there are no differences between male and female respondents in making decision.

Moreover, another illustration for framing of contingencies is shown in Problem 7. Previous study by Kahneman and Tversky (1981) explained that Problem 6 and Problem 7 in the following table 6 were identical in terms of probability and outcomes since both problems offer the same 25% probability in first choice and the same 20% chance in another choice to win certain amount of money. Table 6 shows the survey result from Problem 7 as the followings:

Table 6 – The result of survey based on gender toward the framing of contingencies (2)

Problem 7		
	E	F
Female	36.87%	24.58%
Male	17.32%	21.23%
Total	54.19%	45.81%

Source: Primary data (N = 179)

The survey result in Problem 7 showed that most respondents prefer option E to option F. This result is in contrary with previous study by Kahneman and Tversky (1981). It is said previously that Problem 6 and 7 are equals. Based on the survey result, it might be the respondent did not count the probability and outcome in which those problems offer the similar probability and outcome (25% to win a certain amount of money in problem C and 20% to win another certain amount of money).

Previous study results by Kahneman and Tversky (1981) showed that respondents have similar choice for Problem 5 and 6, but differently to Problem 7. However, in this study, respondents have different choices in Problem 5 and 6, but preference in choice 5 is similar in Problem 7.

Regarding preference based on gender in Problem 7, it is clearly shown that there is a different option regarding male and female respondents. Most of female respondent made a preference to choose E option, while most of male respondents made preference to choose F option.

d) The Framing of Outcomes

To measure the framing of outcomes, two illustrations were used to reflect the framing of outcomes based on the study by Kahneman and Tversky (1981). Each illustration was broken down into two problems in which those problems were opposite in substance. In

this study, the first illustration was broken down into Problem 8 and Problem 9. The currency is adjusted into Indonesian Rupiah (IDR). As the result from the survey done can be seen in the table 7 as the following:

Table 7 – The result of survey based on gender toward the framing of outcomes (1)

Problem 8			Problem 9		
	YES	NO		YES	NO
Female	32.40%	29.05%	Female	27.37%	34.08%
Male	25.14%	13.41%	Male	22.35%	16.20%
Total	57.54%	42.46%	Total	49.72%	50.28%

Source: Primary data (N = 179)

Based on the survey result on Problem 8, most of the respondents (57.54%) were willing to buy another ticket for \$10 (adjusted into Rp100.000) in case they lost that bill. Reversely, the result on Problem 9, in case they have lost the ticket and cannot be recovered, most of respondents said that they were not willing to buy another ticket (50.28%). This study is in accordance with the previous study by Kahneman and Tversky (1981). This is called by effect of psychological accounting according to study by Kahneman and Tversky (1981). The additional expense for buying the ticket in Problem 9 is calculated in the account that might have been set up previously, and this expense could be considered excessive. Meanwhile, the money lost in Problem 8 was not linked specifically to the ticket purchase (Kahneman and Tversky, 1981). Thus, these different considerations could lead to different behaviors.

On the other hand, regarding gender, the survey result for Problem 8 did not show the difference in decision making. As can be seen in the table, the percentages in both genders are following the total percentage. Meanwhile, in Problem 9, most of male respondents (22.35%) are still willing to buy another ticket compared the most female respondents that following the total percentage for not buying the additional ticket.

The second illustration reflecting the framing of outcome in this study was broken down into Problem 10 and Problem 11. The Problems given to the respondents is the following scenario as studied by Kahneman and Tversky (1981). The survey result can be seen on Table 8 as following:

Table 8 – The result of survey based on gender toward the framing of outcomes (2)

Problem 10			Problem 11		
	YES	NO		YES	NO
Female	38.55%	22.91%	Female	26.82%	34.64%
Male	22.35%	16.20%	Male	20.67%	17.88%
Total	60.89%	39.11%	Total	47.49%	52.51%

Source: Primary data (N = 179)

Problem 10 and 11 are reversing scenario for each other. In Problem 10, most of most respondents are willing to make a trip to buy the cheaper calculator for \$15 (adjusted to Rp150.000) and save \$5 (considered as Rp50.000 cheaper). Conversely, in Problem 11,

most respondents are not willing to make an extra trip to when the calculator price is \$120 (adjusted to Rp1.200.000, \$5 cheaper than the previous price, \$125 or adjusted to Rp1.250.000). This result is in accordance with the previous study by Kahneman and Tversky (1981) that implies the evaluation of potential saving in a more inclusive account. The greater impact of a \$5 discount is shown when the calculator has a lower price.

Regarding gender, the survey result in Problem 10 showed no difference in decision making as percentage in both genders are following the total percentage. Nevertheless, in Problem 11, most of male respondents tend to buy the calculator for a \$5 discount, even though the calculator price is more expensive compared to the price shown in Problem 10. This survey result indicated the different choice between female and male respondents.

5. CONCLUSION

From the survey and analysis result, it could be concluded that the overall result is mostly similar with the previous study by Kahneman and Tversky (1981), except for some problems to illustrate the framing of contingencies and the framing of outcome.

Another conclusion from this study shows that based on the percentage on the survey done, it could be stated that there is almost no difference from the gender point of view in making a risky decision. In most problems, the results in percentage on female and male respondents are following the total percentage, respectively. The gender differences in making a risky decision were found only on the some of the scenario in measuring framing of contingencies (on Problem 7) and framing of outcomes (on Problem 9 and Problem 11).

In Problem 7, most of the male respondents choose the Choice F (the substance of questions could be referred from Appendix 1) while most of female respondents made a preference to choose E option. In the Problem 9, most of the female respondents stated that they are not willing to buy another ticket in case they lost it in the assumption that the seat was not market, and the ticket cannot be recovered, while the male respondents stated it reversely. In addition, in Problem 11, most of the female respondents stated that they are not willing to make an extra trip for buying the calculator in case they are \$5 cheaper, while the male respondents are willing to do so.

This study implies the choice made by an individual, especially for Z Generation, that might contain the risk of loss. Referring to some questions asked to the respondents, an individual might consider which choice that contains more risk to be avoided, while accepting a lower risk option.

Moreover, at an organizational level, the risk of loss might refer to financial loss that could be made by inappropriate decision by the manager. For instance, referring to the instruments used, considering some business decisions such as: considering the business venue or giving the discount policy could be a crucial thing to be considered. People as a customer, especially in this study is Z Generation, might be influenced by those decisions regarding their choice whether to buy or not to buy the product. In addition, for further study, it might be also important to investigate this phenomenon among generations so that the broader conclusion about decision making regarding the risk could be drawn.

Appendix 1 – Illustrations of Risky Decisions (Source: Kahneman and Tversky, 1981)

The Effect of Variations in Framing

Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease which is expected to kill 600 people. Two alternatives program to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:

Problem 1

If Program A is adopted, 200 people will be saved.
 If Program B is adopted there is 1/3 probability that 600 people will be saved, and 2/3 probability that no one people will be saved.
 Which of two programs would you favor?

Problem 2

If Program C is adopted 400 people will die.
 If Program D is adopted, there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.
 Which of two programs would you favor?

The Framing of Act

Imagine that you face the following pair of concurrent decisions. First, examine both decisions, then indicate the option you prefer.

Problem 3A [Decision (i)]

- A. The sure gain of \$240
- B. 25% chance to gain \$1000, and 75% chance to gain nothing.

Problem 3B [Decision (ii)]

- C. A sure loss of \$750
- D. 75% chance to lose \$1000, and 25% chance to lose nothing.

Problem 4

- A&D. 25% chance to win \$240, and 75% chance to lose \$760.
 - B&C 25% chance to win \$250, and 75% chance to lose \$750
-

The Framing of Contingencies

Which of the following options do you prefer?

Problem 5

- A. A sure win of \$30
- B. 80% chance to win \$45.

Problem 6

Consider the following two-stage game. In the first stage, there is a 75% chance to end the game without winning anything, and a 25% chance to move into the second stage. If you reach the second stage you have a choice

Your choice must be made before the game starts, i.e., before the outcome of the first stage is known. Please indicate the option you prefer.

Which of the following options do you prefer?

Problem 7

- E. 25% chance to win \$30
 - F. 20% chance to win \$45
-

<p>between:</p> <p>C. A sure win of \$30</p> <p>D. 80% change to win \$45</p>	
<p>The Framing of Outcomes</p>	
<p><u>Problem 8</u></p> <p>Imagine that you have decided to see a play of admission is \$10 per ticket. As you enter the theater you discover that you have lost a \$20 bill.</p> <p>Would you still pay \$10 for a ticket for the play? (Yes/No)</p>	<p><u>Problem 9</u></p> <p>Imagine that you have decided to see a play and paid the admission price of \$10 per ticket. As you enter the theater you discover that you have lost the ticket. The seat was not marked, and the ticket cannot be recovered.</p> <p>Would you pay \$10 for another ticket? (Yes/No)</p>
<p><u>Problem 10</u></p> <p>Imagine that you are about to purchase a jacket for (\$125), and a calculator for (\$15). The calculator salesman informs you that the calculator you wish to buy is on sale for (\$10) at the other branch of the store, located 20 minutes' drive away. Would you make the trip to the other store? (Yes/No)</p>	<p><u>Problem 11</u></p> <p>Imagine that you are about to purchase a jacket for (\$15), and a calculator for (\$125). The calculator salesman informs you that the calculator you wish to buy is on sale for (\$120) at the other branch of the store, located 20 minutes' drive away. Would you make the trip to the other store? (Yes/No)</p>

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