Assessing Financial Well-Being and Awareness to Prevent Financial Frauds – A Study Based on Kolkata

Sayan Basu

State Aided College Teacher, Rammohan College, Kolkata, West Bengal, India
Correspondence E-mail: - basusayan19@gmail.com

Abstract: *Financial well-being refers to a person's ability to satisfy present and future financial obligations, to feel confident about their economic situation, and to make decisions that allow them to enjoy life. Financial fraud is also a serious problem that has far-reaching implications in the banking industry, government, business, and for everyday people. This study is mainly focused to measure the financial well-being of the individuals and identifying the demographic variations on the basis of it. Further this study is also intended to gauge the association between financial well-being of an individual and his awareness regarding the financial frauds as in this digital era financial fraud is a very is one of the major obstacles which a person has to face in his daily life.*

Keywords: Financial well-being, Awareness regarding financial frauds, Maan whitney U test, Yule's coefficient of association

JEL Classification: I30, I31

I. INTRODUCTION

The outcome of financial activities is referred to as financial well-being (**Joo et al. 1998**). Academics have recently been paying careful attention to the issue of various aspects of well-being because of its effects on the quality. Poor financial well-being has been shown to have an impact on physical, mental, and social well-being, which can lead to poor job performance, short-term decision-making, a decreased capacity to concentrate, absenteeism, and lower productivity. The literature on financial knowledge and education has sparked a renewed interest in financial well-being. Financial behaviors and objective financial knowledge have just a minor relationship, and financial education programs to teach knowledge have had minimal impact (**Fernandes et al. 2014; Willis 2011**). This has led to questions about whether objective financial behaviors should be the primary policy outcome, and whether financial knowledge or other connected psychological attributes can predict favorable outcomes. As a result, policymakers have asked for more consumer-centered research in defining and assessing the concept of financial well-being (**CFPB 2015**).

Financial fraud has far-reaching implications in both the banking business and everyday life. Fraud can erode consumer trust, destabilize economies, and raise people's living costs. Due to the intricacies of the problem, traditional approaches to fraud detection depended on manual techniques such as audits, which are wasteful and unreliable, **Ngai et al. (2011).** Financial fraud is a broad phrase with many different definitions, but for our purposes, it can be described as the deliberate employment of illegal methods or procedures to obtain financial advantage, **Zhou et al. (2011).** During the previous decade, researchers like **Carminati et al. (2018)** have looked into a variety of approaches to exploit such details for fraud prevention and detection. Their findings have led to a variety of fraud detection techniques, with a focus on machine learning algorithms (**Yang et al. 2020**), since data aggregation and historical data analysis can aid in the detection of fraud tendencies (**Politou et al. 2019**). These fraud tendencies can assist in the classification and prevention of fraudulent transactions. **Hogan et al. (2008)** analyzed the findings of papers on financial statement fraud,

defining the features of fraudulent organizations in the context of the fraud triangle, and emphasizing the importance of auditors in fraud prevention and detection. **Trompeter et al. (2013)** broadened this perspective to include fraud in criminology, ethics, economics, organizational behavior, psychology, and sociology. **Amiram et al. (2018)** explored additional types of financial reporting fraud and the key findings as well as the problems that researchers confront. By synthesizing different methodology, conclusions, and motivations of fraud-related articles and presenting the authors' perspectives, these studies were studied to include more descriptive and thorough approaches. Furthermore, some research articles have synthesized data from multiple accounting fraud studies utilizing text mining algorithms to detect accounting report fraud by examining clues in quantitative and qualitative textual data. A few academics, however, have conducted a comprehensive trend analysis in accounting fraud to investigate shifts in study focus, prospective research subjects, and research teams.

II. BRIEF REVIEW OF LITERATURES

Individuals all across the world aspire to improve their financial situations. They try to make right financial decisions (spend, save, borrow, etc.) in order to increase their assets and safeguard their resources for the improvement of their financial situation. Now, this financial situation is highly associated with the individuals' perceived/subjective financial well-being, level of liquid savings, status of credit due, absorbing financial shock, diversifying investment portfolio, and retirement planning (Sehrawat et al., 2021). On the other hand, it is considered that respondents who performed well on financial literacy are thought to have a broad understanding of both fundamental and advanced financial concepts (Sabri and MacDonald's,2010). Therefore, based on the existing literature it can be said that higher level of financial literacy, financial behaviour, and financial capability, the greater will be the level of financial well-being (Sabri & Falahati, 2003). But the outcome of the research conducted by Sabri and MacDonald's (2010) is depicting a totally different picture. The findings of this study are actually indicating a negative linkage between financial literacy & financial well-being as well as between saving behaviour & financial troubles (Sabri and MacDonald's, 2010). Even there is also a negative association between financial literacy (basic and advanced financial literacy) and financial stress (Osman et al., 2018). But in this ground a contradictory picture can also be observed. According to the study, there is a link between several aspects of health and financial well-being. Poor financial circumstances are only one of many life events that can cause people to experience the physical repercussions of stress, which can lead to a variety of health issues. Females are more likely than males to say that financial troubles have a negative impact on their health (O'Neill et al., 2005). Further, though the males scored better in financial satisfaction and financial knowledge than females still ladies scored higher in personal well-being. Actually, financial satisfaction moderates the relation of all factors to personal well-being, with some gender differences: in females, financial status is the main source of financial satisfaction, whereas in males, financial knowledge is the main source of financial satisfaction, demonstrating that financial literacy initiatives may not only be important in influencing financial behaviour, yet it could also play a role in enhancing male financial contentment (Gerrans et al. 2013). Even, in case of female too, the greater the level of financial knowledge and a favourable financial attitude the better their financial well-being and, as a result, their empowerment. Furthermore, the study found that age, education, income level, marital status, career, saving, and investment behaviour, as well as the country's political, social, and economic culture, all influence women's economic empowerment. More precisely, in terms of demographics, it has been determined that women's age and marital status are two of the most impacting elements affecting their economic empowerment, Haque et al. (2016).

The key characteristics of accounting fraud are to focusing on the environment and alternative approaches to prevent fraud, Tutino (2019). It looked at the link between accounting fraud and the primary elements that contribute to its occurrence. Accounting fraud can destroy firms and devastate the lives of employees and investors, as the Enron crisis demonstrated, Yu et al. (2021). The more transactions a company records, the more complicated the accounting system must be to meet regulatory requirements. A sophisticated system, despite its utility and convenience, may result in more accounting errors and fraud. In this regard, proactively detecting and consistently managing false accounting is crucial. The accounting industry has undergone significant changes as a result of digital revolution & here Artificial Intelligence came into existence. Artificial intelligence is usually presented with its entire drawback's front and centre,

but awareness of the benefits of adopting it should win out, Găbudeanu et al. (2021). However, according to Albrecht's fraud triangle thesis, capacity and rationalisation are only two of a deceiver's primary skills. Respondents are ambivalent concerning the employment of artificial intelligence and data aggregation. Accounting fraud is frequently the outcome of unethical behaviour by a person or a group of persons who have not received adequate ethical education, Tutino (2019). Therefore, fraud detection is also required. Fraud detection is an integral aspect of the modern banking business. They studied current methods in financial fraud detection utilising sophisticated statistical and computational tools in this study, West et al. (2015). Despite their differences in efficacy, each technique was proved to be capable of detecting various types of financial fraud. There are still a lot of features of intelligent fraud detection that haven't been studied yet. Various types of fraud have been briefly addressed, and also various data mining tactics, but more research is needed to properly appreciate them. This highlights the need for a better understanding of how algorithms work, as well as more clarity on each stakeholder's role in fraud prevention and opportunities for stakeholder engagement for more successful fraud prevention, Găbudeanu et al. (2021). At this present moment, Covid – 19 is another very important aspect due to which people are moving toward frauds. The COVID-19 pandemic and ensuing economic slowdown have disrupted relative demands and organisational capital in ways that will almost certainly increase the occurrence in the coming years. Many other advances, on the other hand, are striving to reduce the occurrence of financial market fraud in the long run. Fewer information, research, and transaction costs all assist to limit how much money may be made through fraud. Increased use of blockchain technology can reduce fraud's prospects and profits while also lowering its incidence. A combination of first party, related-party, and third-party enforcement is used to discipline and deter fraud, according to the Trust Triangle. Increases in society wealth are likely to strengthen all three of these mechanisms, Karpoff (2020).

III. OBJECTIVES OF THE STUDY

- To assimilate the financial well-being of the respondents on the basis of age group, gender and marital status.
- To compare the level of financial well-being of the respondents on the basis of residential area, gender and age group
- To gauge the association between financial wellbeing and awareness to prevent financial fraud.

IV. METHODOLOGY

A structured questionnaire based on the CFPB (Consumer Financial Protection Bureau) FINANCIAL WELL-BEING scale was created to assess the respondents' financial well-being. The scale consists of 10 questions and a scoring method. CFPB Financial Well-Being score is a number between 0 and 100. A greater number suggests a higher level of financial security, however there is no set "good" or "bad" score. In order to produce a final score, it is essential to know the respondent's age and whether the respondent can read the questions by him/ herself or someone else has to read the questions to the respondent. Any score less than 50 is considered as low financial well-being and any score 50 or above is regard as high financial wellbeing.

Process to obtain the Final Financial Well-being Score

- **Calculate the entire response value (or raw total):** Once the individual has completed the questionnaire the responses of the person are added together by using the 1st part of the scoring worksheet to get the "total response value."
- **Transform the total number of responses to a final score:** On part two of the scoring worksheet, the total response value of that respondent has been recorded in the first column, then by following the row across to the appropriate column based on the respondent's age group and how the questionnaire was administered the CFPB Financial Well-Being Scale score of that respondent has been obtained.
- The time period of this study is 3 months i.e., March'21 to May'21.
- To assimilate the financial well-being of the respondents on the basis gender and the residential area Mann Whitney U-test and independent sample Kruskal Wallis test at 5% level of significance have been carried out.

- The awareness regarding the financial frauds has been measured by calculating the average score on the basis of the related 5 questions. Any score below 50% considered as low awareness whereas score 50% and above are considered as high awareness.
- To gauge the association between financial wellbeing and awareness to prevent financial fraud Yule's coefficient of association has also been conducted here.

V. HYPOTHESES DEVELOPMENT

This study identified the following testable hypotheses:

According to the study, there is a link between several aspects of health and financial well-being. Poor financial circumstances are only one of many life events that can cause people to experience the physical repercussions of stress, which can lead to a variety of health issues. Females are more likely than males to say that financial troubles have a negative impact on their health (O'Neill et al., 2005). As a result of this existing research, the first testable hypothesis has been created to investigate any variation in the level of financial well-being based on gender.

- H_{01}: There is no significant difference between male and female in the level of financial Well-being.
- H_{11}: There is a significant difference between male and female in the level of financial Well-being.

According to the research self-actualizing personal values, financial education at home, and formal financial education at school play the crucial role for the young adults in the way of acquiring knowledge about financial matters and forming their attitudes and behavioural intentions. However, it is shocking to learn that today, the majority of young adults in colleges are facing significant threats to their financial and economic well-being, despite the fact that the majority of them own and use credit cards frequently to purchase a wide range of goods and services, including tuition (Shim et al. 2009).Moreover, it is also identified that a significant difference in level of financial well-being can also be observed on the basis of the socioeconomic factors and financial behaviour (Gutter & Copur, 2011). Therefore, based on this preceding discussion the second testable hypothesis has been formed to gauge the impact of different residential areas on the financial well-being of the individuals.

- H_{02}: No significant difference can be observed among the residential area on the basis of the financial well-being
- H_{12}: A significant difference can be observed among the residential area on the basis of the financial well-being

Financial fraud has far-reaching implications in our day-to-day life. Financial literacy is very important to detect the financial frauds. The more financially knowledgeable an individual is, the greater is the ability of fraud detection (Engels et al., 2019). On the other hand, as per the research the higher level of financial literacy, financial behaviour, and financial capability, the greater will be the level of financial well-being (Sabri & Falahati, 2003). Therefore, the third testable hypothesis has been prepared to measure the association between these financial well-being and awareness regarding the financial fraud.

- H_{03}: There is no significant difference related to the financial well-being on the basis of the marital status.
- H_{13}: There is a significant difference related to the financial well-being on the basis of the marital status.

VI. DATA ANALYSIS

Table 1: Overview of Financial Well-being on the basis of Age group

Age	Higher Financial Well-Being	Lower Financial Well-being	Grand Total
18 – 29 years	100	130	230
30 – 39 years	17	9	26
40 – 49 years	5	0	5
59 – 59 years	1	0	1
60 years& above	2	2	4
Grand Total	125	141	266

Source: Authors' Own Tabulation

From the above table it is evident that, in the age span of 18-29 years, out of 230 respondents, 100 respondents have higher financial well-being i.e., around 43%, in the age span of 30-39 years 65% have higher financial well-being. Respondents within the span of 40-59 years have 100% higher financial well-being and i.e., 50% in case of 60 years & above.

Table 2: Overview of Financial Well-being on the basis of Gender and Residential Area

Residential Area / Label of Financial Wellbeing	Rural			Semi-Urban			Urban			Grand Total
	M	F	Total	M	F	Total	M	F	Total	
Higher Financial Well-Being	4	6	10	9	7	16	35	64	99	125
Lower Financial Well-being	3	5	8	15	13	28	28	77	105	141
Grand Total	7	11	18	24	20	44	63	141	204	266

[*Source: Authors' Own Tabulation (Note: M= Male; F=Female)*]

From the above table, it is observed that, in the rural areas 57% of the male respondents are having higher financial well-being & i.e., 55% in case of female respondents. In the semi-urban areas, 37.5% of the male respondents are having higher financial well-being & i.e., 35% in case of female respondents. In case of urban areas, 55.5% of the male respondents are having higher financial well-being & i.e., 45% in case of female respondents.

Table 3: Overview of Financial Well-being on the basis of Marital Status and Residential Area

Residential Area / Label of Financial Wellbeing	Rural			Semi-Urban			Urban			Grand Total
	S	M	Total	S	M	Total	S	M	Total	
Higher Financial Well-Being	8	2	10	14	2	16	85	14	99	125
Lower Financial Well-being	8	0	8	27	1	28	98	7	105	141
Grand Total	16	2	18	41	3	44	183	21	204	266

Source: Authors' Own Tabulation (Note: S= Single; M= Married)

From the above table, it is evident that, in the rural areas, out of the single respondents, 50% have higher financial well-being i.e., 100% in case married respondents. In the semi-urban areas, out of the single respondents, 34% have higher financial well-being i.e., 67% in case married respondents. In case of urban areas, out of the single respondents, 46% have higher financial well-being i.e., 48% in case married respondents.

According to the test results summary, there is no substantial variation in financial well-being based on residential neighbourhood.

Table 4: Residential Status-wise Variation in the level of financial well-being

Independent-Samples Kruskal-Wallis Test Summary

Total N	266
Test Statistic	1.566[a,b]
Degree Of Freedom	2
Asymptotic Sig. (2-sided test)	.457
a. The test statistic is adjusted for ties.	
b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.	

Source: Primary Data compiled through SPSS 25

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of FWB is the same across categories of Residential Area: .	Independent-Samples Kruskal-Wallis Test	.457	Retain the null hypothesis.
a. The significance level is .050.				
b. Asymptotic significance is displayed.				

Table 5: Gender-wise Variation in the level of financial well-being

Result of Mann Whitney U test at 5% level of significance

	Gender:	N	Mean Rank	Sum of Ranks
FWB	Male	94	141.74	13323.50
	Female	172	129.00	22187.50
	Total	266		

Test Statistics[a]	
	FWB
Mann-Whitney U	7309.500
Wilcoxon W	22187.500
Z	-1.295
Asymp. Sig. (2-tailed)	.195
a. Grouping Variable: Gender:	

Source: Authors' Own Tabulation

The above test result signifies that there is no significant difference in the level of financial Well-being on the basis of gender. As the Z value belongs within the range of +1.96 to -1.96 and the sig value i.e., 0.195 is higher than the p-value i.e., 0.05. Therefore, Null hypothesis is accepted here against the alternative hypothesis.

Table 6: Marital status-wise Variation in the level of financial well-being

Result of Mann Whitney U test at 5% level of significance

	Marital Status	N	Mean Rank	Sum of Ranks
FWB	Single	240	129.79	31150.00
	Married	26	167.73	4361.00
	Total	266		

Test Statistics[a]	
	FWB
Mann-Whitney U	2230.000
Wilcoxon W	31150.000
Z	-2.395
Asymp. Sig. (2-tailed)	.017
a. Grouping Variable: Marital Status:	

Source: Authors' Own Tabulation

The above test result signifies that there is a significant difference in the level of financial Well-being on the basis of marital status. As the Z value does not belong within the range of +1.96 to -1.96 and the sig value i.e., 0.017 is lower than the p- value i.e., 0.05. Therefore, Null hypothesis is rejected here against the alternative hypothesis.

Table 7: Calculation of Yule's Coefficient of Association

[Where, A & B = Positive Attributes; α & β = Negative Attributes]

A= High Awareness regarding financial frauds

α= Low Awareness regarding financial frauds

B= High Level of financial well-being

β= Low level of financial well-being

No. of Respondents	B	β	Total
A	44	45	89
α	81	96	177
Total	125	141	266

Source: Authors' Own Tabulation

Yule's Coefficient of Association (Q) = [{(AB * αβ) – (Aβ * αB)} / {(AB * αβ) + (Aβ * αB)}]

= [{(44*96) – (45*81)} / {(44*96) + (45*81)}]

= 0.07

From this table it can be observed that only 16.54% of the total respondents have both high level of financial well-being and awareness regarding the financial fraud. Whereas 36.09% of the total the respondents have both low level of financial well-being and awareness regarding the financial fraud. According to the outcome of Yule's coefficient of association it can be observed that there is a very low association between financial well-being and awareness regarding the financial fraud which signifies that respondent having high financial well-being must have the high awareness regarding financial frauds.

VII. CONCLUSION

Financial well-being isa major contributing factor to an individual's overall well-being because when an individual feels financially secure, then he is more likely to feel that he can enjoy life without any worry regarding the financial future. On the other hand, financial insecurity can cause stress that affects all the aspects of an individual's life- from the personal life to the overall health and well-being. On the other side, the e-Revolution presents a fertile ground for cyber-attacks in this new era, as there is a lot of money in cyber space during the period of current computer technology and data networks. According to Cyber Security Report- NITI Aayog, India ranks 3rd in terms of the highest number of internet users in the world after USA and China, the number has grown 6-fold during 2012-2017 with a compound annual growth rate of 44%. India joins the United States as one of the top ten spam-sending countries in the world. According to a survey released on October 22 by internet security firm" Symantec Corp," India was once again listed among the top five countries plagued by cybercrime. According to this study respondents belonging to the age group of 40-49 years have the highest financial well-being. Again, it can also be noticed that the no. of respondents having higher financial well-being is highest in the urban area but on the basis of gender it can be said that males in the three residential areas (i.e., rural, urban, semi-urban) have higher financial well-being than the females. Though no significant difference in the level of financial well-being can be observed on the basis of residential area and gender still a significant difference in the level of financial well-being can be observed on the basis of marital status. Further as per the result of yule's correlation of association it can be observed that there is a very low association between financial well-being and awareness regarding the financial fraud which signifies that respondent having high financial well-being must have the high awareness regarding financial frauds.

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