Impact of Financial Literacy of House Hold Females on the Use of Fintech: Testing the Relation with Unified Theory of Acceptance & Use of Technology (UTAUT) Model

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ABSTRACT

The era of COVID-19 resulted in contactless transactions and extensive use of technological applications. Similar was the case of Fin-Tech which has been extensively used by consumers all around the globe for making transactions and other financial and economic needs. Although these form of studies are rare from developing as well as Asian sides of the globe. On the other side, there are some studies that indicated the UTAUT model as the base to prefer mobile methods of transaction and Fin-Tech use. Hence this paper has been developed systematically to relate the financial literacy of household females from generation Y with the use of Fin-Tech during the eve of COVID-19. For devising this relationship research has been induced with the UTAUT model and data has been collected from married household females between twenty-four to thirty-five years of age. Results were analyzed through SMART-PLS which highlighted that the financial literacy of household females has a significant association with the UTAUT model. However, the entire UTAUT model does not have a significant relationship with the use of Fin-Tech.

Key Words: Fin-Tech, COVID-19, Household Females, UTAUT Model &

Financial Literacy

INTRODUCTION

In recent times technology became an integral part of the financial sphere. In fact, there is a well-known notion to highlight e linkage between finance and technology named "Fin-Tech" (Vasenska et al., 2021). Fin-tech can simply be defined as the innovation based on the integration of finance and technology to provide liberty to consumers to access new products, markets, models, and applications. This will not only result in the formulation of the financial industry but also foster competition among elements of the industry (Daragmeh, Lentner & Sagi, 2021).
Technically explaining the purpose of Fin-Tech is to propose technological solutions that may lead to a new business model in order to real-world problems. Thus, the sector is progressing at a fast pace although the revolution started in the twentieth century with the launch of the automatic teller machine (ATM) by Barclay's Bank (Vasenska et al., 2021). However, in recent times outbreak of COVID-19 resulted in tremendous growth in the Fin-Tech sector as people seem reluctant to conduct physical transactions and face-to-face interactions (Daragmeh, Lentner & Sagi, 2021). However, there are few studies that examine the impact of an outbreak of COVID-19 on increased use of Fin-Tech e.g. Benni (2021); Daragmeh Lentner and Sagi, (2021); Fu and Mishra (2020) and Hill (2021), etc. However, most of the studies in this vein are from European sides of the world or not from specific genders as well as in Asia. Hence the purpose of this paper is to uncover the impact of COVID-19 on the use of Fin-Tech in Pakistan.

STATEMENT OF PROBLEM

There are several studies that relate theories like the Technology Acceptance Model (TAM), the United Theory of Acceptance and use of technology (UTAUT), Technological Readiness, etc with the adoption of Fin-Tech (Setiawan et al., 2021). However, for the adoption of Fin-Tech, there is also a need for financial literacy, as financial literacy is the prime tool that makes the user comfortable with

innovative products (Morgan & Trinh, 2020). On the other side research from developed sides of the world failed to report a higher level of financial literacy (Morgan & Trinh, 2019). In fact, researchers are unaware of any study which relate financial literacy to the use of financial technology (Morgan & Trinh, 2019). Therefore, there is a need to explore the relationship between financial literacy and the use of financial technology. However, previous studies also indicated that the adoption of Fin-Tech was actually caused due to the technological orientation (Setiawan et al., 2021). Therefore the twofold purpose of this study is also to explore the base of the relationship that either it is based on financial literacy or based on technological orientation.

THEORETICAL FRAMEWORK

One of the initial studies conducted by Samartin (2003) indicated that it might be men who mostly take financial household decisions. Although it is not clear and definitely there is a gap of understanding with respect to gender and their ability to take financial decisions.

This postulate has been supported by Khan et al (2020) that generations and sex have a key impact on the rate of technological adoption. On the other side previous studies e.g., Laywilla et al (2020) highlighted the Unified Theory of Acceptance and use of technology (UTAUT) as the source to use Fin-Tech applications. Similar has been indicated by Bao and Huang (2021) and Vasenska et al (2021).

However, studies like Fu and Mishra (2020) indicated the global relationship between the COVID-19 pandemic on the adoption of Fin-Tech; therefore this study uses COVID-19 as the major predictor for the adoption of Fin-Tech during COVID-19 with serial mediation of the UTAT model. Moreover, the study uses Generation Y to gauge the impact of the COVID-19 pandemic on the adoption of Fin-Tech as Generation-Y was found to have more technological orientation, even in comparison to generation-Z (Khan et al., 2020). On the other side study of Laywilla et al (2020), explores the linkage of UTAUT Theory as the source of adop-

tion of e-wallets from females in Jakarta. Results indicated that female perceives that the use of e-wallet will make purchase easier. The study was carried out during COVID-19; therefore it is not vague to perceive that one of the reasons to use e-wallets was COVID-19. Therefore, this study takes the reference of household wives (Hardini & Bahtiar, 2020) for measuring the impact of financial literacy on the use of Fin-Tech during COVID-19. However to gauge financial literacy research work capitalizes only on the initial parameter as the parameter (Financial Literacy) found on the lower side even in developed countries (Morgan & Trinh, 2019).

LITERATURE REVIEW

The middle of the twentieth century was the era when we start observing the association of information technology with financial services. The initial step was taken by Barclays through the introduction of an automated teller machine (Vasenska et al., 2021). On the other side, there is well-developed literature to relate financial literacy and various financial & economic behaviors. Through research, the focus was significantly increased due to the economic downturn of 2008-2009 which resulted in several scams and scandals associated with borrowings and investment activities (Morgan & Trinh, 2020). Similar is the case of the outbreak of COVID-19 which also resulted in an economic downturn (Valaskova, Durana & Adamko, 2021).

Thus, also enforces severe investigation towards the use of Fin-Tech e.g. Benni (2021); Fu and Mishra (2020) and Hill (2021), etc. A study by Fu and Mishra (2020) indicated severe download of financial applications by consumers all over the globe. However, according to the study, traditional banks gain more value as compared to well-known Fin-Tech firms. Similar has been indicated by Hill (2021) and Benni (2021), i.e. pandemic causes a consumer shift towards and the massive shift has been observed in form of consumer preference towards mobile and digital forms of money transfer. Though some findings by Hill (2021) are different from Fu and Mishra (2020) as the study indicated that banks in the US

tied the knot with Fin-Tech firms to survive the downturn. However, an increase in the rate of development of Fin-Tech also raises the requirement of an increase in consumer knowledge to deal with more sophisticated levels of technology as well as products (Morgan & Trinh, 2020).

Although Generation Y found to be more inclined towards the use of technology as compared to generation Z (Khan et al., 2020), studies were failed to provide surety regarding more inclination of any particular gender towards the technology (Samartin, 2003). However, recent studies highlighted gender orientation as the significant predictor of technological inclination (Khan et al., 2020). Linking the literature with the implication of the UTAUT model it has been reflected that performance expectancy is a significant predictor of using technological applications for mobile payments (Latha & Vatchala, 2019). Similar has been reflected by the survey of Al-Saedi et al (2020), while the other study by Dmitrii (2018) indicated that effort expectancy is the prevalent predictor of the use of mobile wallets.

RESEARCH METHODOLOGY

Research Design

The paper uses epistemology as the research philosophy as the purpose of the study is to relate the financial literacy of household females with the use of Fin-Tech. These sorts of studies were previously conducted in developed & western countries (e.g. Morgan & Trinh, 2019), similarly there are also some studies that explore the linkage of UTAUT theory with the use of Fin-Tech e.g. Laywilla et al (2020). However, the linkage was rarely tested not only in the eastern and under-developed world but also for the linkage of financial literacy with the UTAUT model and its associations with the use of Fin-Tech.

Therefore in consideration with Saunders et al (2007), the philosophy of research is epistemology as the purpose of the study to devise the theoretical linkage as well as to optimize research work with reference to under-developed and eastern sides of the world. However, various parts of the research model were previously

through a quantitative approach i.e. Khan et al (2020) and Setiawan et al (2021), and therefore the philosophical stance associated with the study is post-positivism (Žukauskas, Vveinhardt & Andriukaitiene, 2018). Research work uses philosophical stances in order to incorporate indications of Saunders et al (2007) and Žukauskas et al (2018). The study uses a deductive approach and the time horizon for the study was cross-sectional (Saunders et al., 2007 & Saunders et al., 2009).

Sampling Design

The sampling design followed Prasad et al (2018) which was based on convenience sampling to collect information about digital financial literacy in India. However, the study was descriptive and no inferential outcomes were carried out. Therefore, in order to conduct the study effectively, researchers take the reference of Hardini and Bahtiar (2020) in order to collect data from housewives during the days of the pandemic. However, the sample used by Hardini and Bahtiar (2020) was only of hundred respondents which might not be sufficient to justify results when the aim of the study is to link financial literacy with UTAUT and then to use of Fin-Tech in the days amid COVID-19. Hence this study takes the reference of Goodhue et al. (2012) and Hair et al. (2011) to use the 10-10 rule. After calculating the number of arrows pointing towards each indicator the sample size for the study is three hundred.

Questionnaire

Research Instrument is a hybrid of different studies like Huston (2010), Setiawan et al (2021), and Suliyanto (2017) for financial literacy, Khan et al (2020) and Setiawan (2021) is used to reflect the use of technology and use of Fin-Tech. However, the instrument has been based on the Likert scale in order to comply with Hassan et al (2021) and to avoid delay in data collection the questionnaire has been circulated physically as well as through online mode. Initially, 400 questionnaires were distributed through the number of questionnaires received were 15% less than the number of questionnaires circulated i.e. 340.

Therefore the response rate was 85% but among 340 received questionnaires 22 were not adequately filled and 18 questionnaires were rejected in the process of data cleaning. Therefore this study has been based on 300 responses received from household wives on the topic of financial literacy and its linkage with the use of Fin-Tech.

Software and Statistical Technique

Hardini and Bahtiar (2020), use regression in order to determine results based on the financial literacy of household females amid COVID-19. Similarly, the correlation was used by Prasad et al (2018), and therefore applying SMART-PLS in order to incorporate structural equation modeling in this study is adequate enough to be applied. Similar has been reflected by Wong (2013) that SMART-PLS is one of the most effective software when researchers have lesser knowledge regarding the theory and it is also the best alternative to CB-based SEM. Hence, the use of CB-Based SEM by Hasan et al (2020) might effectively be replaced by PLS-Based SEM.

STATISTICAL TESTING AND ANALYSIS

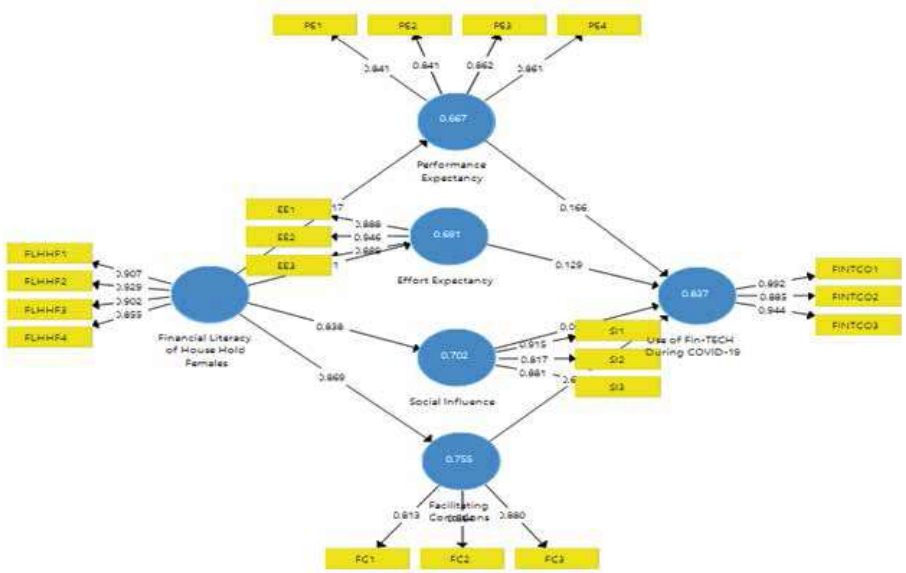


Figure 1: Outer Loadings and Confirmatory Factor Analysis (CFA)

Through figure 1 it has been highlighted that all the outer loading for the elements is more than 0.708 which is the benchmark criteria for the qualification of elements in descriptive statistics (Hair Jr. et al., 2021). Although one may also be allowed to retain elements having outer loading of 0.5 or above (Afthanorhan, 2013), hence all the elements are adequate enough to be retained in the analysis

R Square

	R Square	R Square Adjusted
Effort Expectancy	0.691	0.688
Facilitating Conditions	0.755	0.753
Performance Expectancy	0.667	0.665
Social Influence	0.702	0.700
Use of Fin-TECH During COVID-19	0.837	0.832

Table 1: R^2 (Quality Criteria, i.e. Predictive Accuracy)

Table 1 is indicating that the values of coefficient of determination (R-Square) as to satisfactory for all the cases as the values are higher than the minimum benchmark of 0.25 and also the moderate value of 0.5. In fact, for some cases, the value of the coefficient of determination is more than the substantial benchmark for the criteria (Hair Jr. et al., 2017). Therefore in the light of these parameters the model is adequate enough to be tested as the change in the predictor (IV) is resulting in a significant change in the DVs.

Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Effort Expectancy	**0.893**	**0.898**	**0.934**	**0.825**
Facilitating Conditions	**0.813**	**0.819**	**0.889**	**0.728**
Financial Literacy of House Hold Females	**0.920**	**0.921**	**0.944**	**0.808**
Performance Expectancy	**0.874**	**0.876**	**0.913**	**0.725**
Social Influence	**0.841**	**0.849**	**0.905**	**0.760**
Use of Fin-TECH During COVID-19	**0.893**	**0.898**	**0.933**	**0.823**

Table 2: Construct Reliability & Convergent Validity

Table 2 is used to reflect construct reliability, composite reliability, and convergent validity. The table includes three (3) reliability measures i.e. Cronbach's Alpha (α), Goldstein rho & composite reliability.

However, according to Nunnally (1994) the values of Cronbach's Alpha and Composite Reliability must be greater than 0.7, and Goldstein rho is also termed a better reliability evaluator than Cronbach's Alpha (Ravand & Baghaei, 2016). Therefore in association with these criteria table is sufficiently fulfilling the requirements of internal reliability (α), construct reliability, and composite reliability. However, the table is also effective in reflecting convergent validity through composite reliability and AVE as these two in addition to outer loadings are the main criteria for assessing convergent validity (Ab Hamid, Sami & Sidek, 2017). Although, AVE with a value of 0.5 or above might alone be a potent predictor of convergent validity (Benitez et al., 2020). Thus on the bases of this criterion table is sufficient in reflecting internal reliability, construct reliability, composite reliability, and convergent validity.

Discriminant Validity

	Effort Expectancy	Facilitating Conditions	Financial Literacy of House Hold Females	Performance Expectancy	Social Influence	Use of Fin-TECH During COVID-19
Effort Expectancy						
Facilitating Conditions	**0.593**					
Financial Literacy of House Hold Females	**0.490**	**0.663**				
Performance Expectancy	**0.451**	**0.691**	**0.797**			
Social Influence	**0.680**	**0.783**	**0.774**	**0.675**		
Use of Fin-TECH During COVID-19	**0.774**	**0.450**	**0.598**	**0.584**	**0.581**	

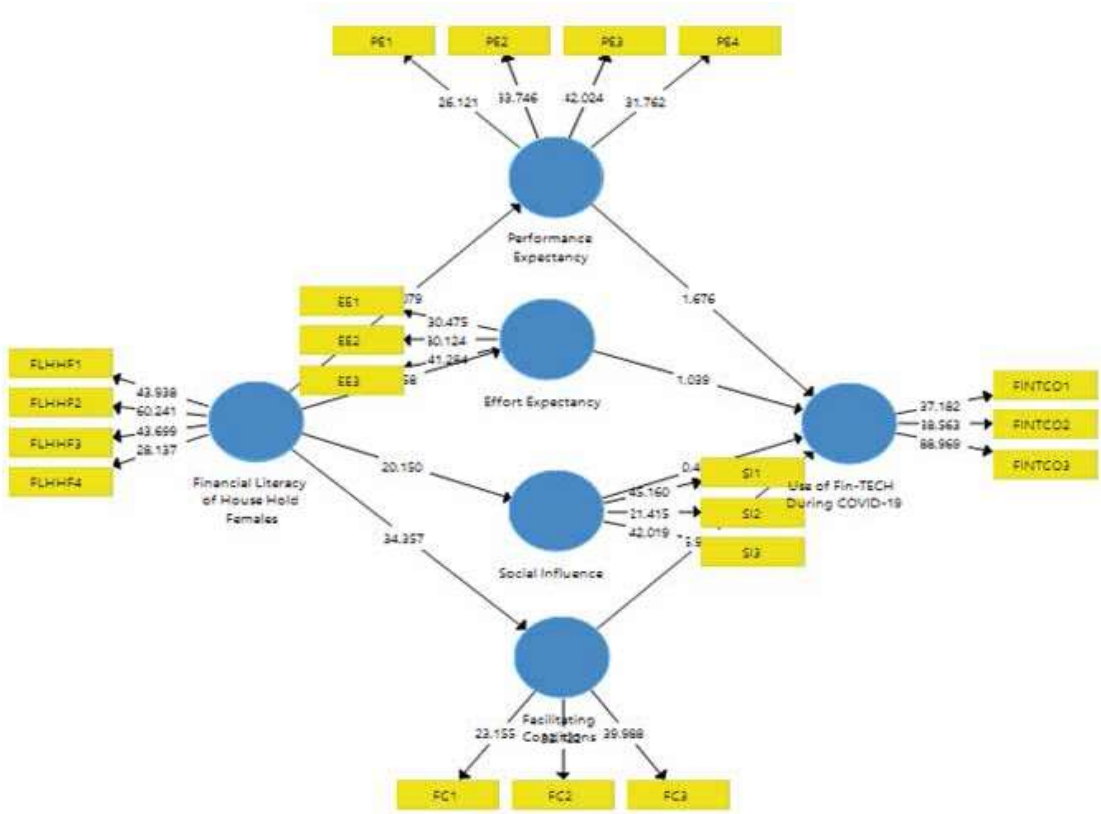
Table 3: Discriminant Validity

Table 3 is indicating discriminant validity through Heterotrait-Monotrait Ratio and the ratio is perceived as the best tool to highlight discriminant validity (Benitez, et al., 2020). Moreover, according to the table, the maximum value is 0.797 which is lesser than the 0.85 i.e. threshold criteria of discriminant validity through the Heterotrait-Monotrait ratio (Hair Jr. et al., 2017b). Therefore, legitimate to

declare that table is sufficient enough to reflect the discriminant validity through Heterotrait-Monotrait Ratio.

Table 4 is indicating the path coefficient which has a range of -1 to +1. Vale of -1 is to indicate a negative relationship and +1 is to indicate a positive relationship, while 0 indicates no relationship (Mirza, Sandhu & Ameen, 2020).

The table also includes t-values and p-values to induce the relationship as indicated by Kock and Hadaya (2018) that the p-value must be lesser than or equal to 0.05 and the t-value must be greater than or equal to 1.97 (Durate & Amaro 2018). Therefore through these criterion three variables (components), associated with the UTAUT model including effort expectancy, performance expectancy, and social influence does not have an impact on the use of Fin-Tech during COVID-19. However, the financial literacy of household females has a positive relationship with all the components of the UTAUT model.



Mean, STDEV, T-Values and P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Effort Expectancy -> Use of Fin-TECH During COVID-19	0.129	0.146	0.124	1.039	**0.299**
Facilitating Conditions -> Use of Fin-TECH During COVID-19	0.608	0.611	0.102	5.984	**0.000**
Financial Literacy of House Hold Females -> Effort Expectancy	0.831	0.828	0.044	19.058	**0.000**
Financial Literacy of House Hold Females -> Facilitating Conditions	0.869	0.866	0.025	34.357	**0.000**
Financial Literacy of House Hold Females -> Performance Expectancy	0.817	0.813	0.041	20.079	**0.000**
Financial Literacy of House Hold Females -> Social Influence	0.838	0.837	0.042	20.150	**0.000**
Performance Expectancy -> Use of Fin-TECH During COVID-19	0.166	0.169	0.099	1.676	**0.094**
Social Influence -> Use of Fin-TECH During COVID-19	0.064	0.042	0.146	0.437	**0.662**

Table 4: Boot Strapping (Path Analysis, t-vales & p-values)

Specific Indirect Effects

Mean, STDEV, T-Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Literacy of House Hold Females -> Effort Expectancy -> Use of Fin-TECH During COVID-19	0.107	0.119	0.102	1.049	**0.295**
Financial Literacy of House Hold Females -> Facilitating Conditions -> Use of Fin-TECH During COVID-19	0.528	0.529	0.089	5.908	**0.000**
Financial Literacy of House Hold Females -> Performance Expectancy -> Use of Fin-TECH During COVID-19	0.135	0.137	0.081	1.678	**0.094**
Financial Literacy of House Hold Females -> Social Influence -> Use of Fin-TECH During COVID-19	0.053	0.033	0.123	0.434	**0.665**

Table 5: Specific Indirect Effect

Table 5 is used to indicate a specific indirect relationship in order to validate claims based on the mediating relationship of the UTAUT model. The table has the same criteria of boor-strapping, t-values, and p-values to indicate the relationship. However, the purpose is to reflect the impact of predictor (IV) through a mediator(s) on DV. A similar has been done in order to show mediating relationship by Pangarso et al (2020), which highlighted the rule of thumb of 0.05 or

lower for p-value and 1.97 or above for t-value. Therefore in the light of the criteria, facilitating condition is the only variable (component) of UTMT Theory which is indicating the mediating relationship between the financial literacy of household females and the use of Fin-Tech during COVID-19

ANALYSIS

Through table 4 and table 5 it has been reflected that the financial literacy of household females is significantly related to all the parameters of the UTAUT model. Although only one component from the UTAUT model i.e. facilitating condition is positively associated with the use of Fin-Tech during COVID-19. Moreover, serial mediation of facilitating conditions is also effective in relating the financial literacy of household females with the use of Fin-Tech during COVID-19. Hence on the bases of these outcomes, it is effective to indicate that the use of Fin-Tech is actually based on the level of financial literacy rather than technological inclination. Therefore, the claim formulated problem statement of this study is effective as serial mediation is significant only in the case of facilitating conditions.

That means facilitating conditions aids financially literate females to use Fin-Tech more often during COVID-19. Another fold of the study also indicated that financial literacy is the major force behind the technological inclination and also to prefer Fin-Tech for contactless transactions.

CONCLUSION & DISCUSSION

The findings of the study are consistent with the indications of Morgan and Trinh, (2020), as financial literacy is positively correlated with the UTAUT model. That means financial literacy makes people accept and use technology. However, relating the model of UTAUT with the use of Fin-Tech in COVID-19 only highlighted the positive correlation between facilitating conditions and the use of Fin-Tech during COVID-19. This is consistent with one of the prime purposes of this study to reflect that the UTAUT model was not actually the cause of preference for

Fin-Tech by household females. Similar was highlighted by Morgan and Trinh (2020) as Financial Literacy is required in order to make people comfortable with innovative products. Moreover, findings are based on household females of Generation Y & when financial literacy and the UTAUT model are associated positively then legitimate to declare findings consistent with Khan et al (2020). Consistency with these relations resulted in inconsistency with Setiawan et al. (2021), as the findings indicated the impact of COVID-19 on the use of Fin-Tech rather than technological orientation. The statement is valid as the findings of the study are only indicating the mediating role of facilitating conditions rather than any other variable of the UTAUT model. Therefore, legitimate to declare the study is inconsistent with Latha and Vatchala (2019). Al-Saedi et al (2020) and Dmitrii (2018), indicated performance expectancy and effort expectancy as the potent variables associated with the adoption of Fin-Tech.

AREA FOR FUTURE RESEARCH

This is one of the initial studies with reference of Pakistan that tries to relate the impact of financial literacy of household females with the use of Fin-Tech during COVID-19. Although there are some studies e.g. Daragmeh et al (2021) which highlighted the use of Fin-Tech during COVID-19 by Generation-X & generation X are also claimed by the head of the families. Therefore further studies might relate the UTAUT model with the use of Fin-Tech during COVID-19. Moreover, analysis of the model by taking generation as a control variable might also produce a significant impact.

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