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ONLINE SHOPPING BEHAVIOR AND ITS IMPLICATIONS FOR FINANCIAL MANAGEMENT OF VOCATIONAL SCHOOL STUDENTS IN THE DIGITAL ERA: A CASE STUDY OF THE FINANCIAL WISE STUDENT CREATIVITY PROGRAM

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ABSTRACT

The development of massive online shopping platforms has transformed the consumption patterns of adolescents, especially vocational high school (SMK) students, in a direction that has the potential to shape unplanned and consumptive financial behaviors. This community service research aims to identify the pattern of online shopping behavior of students of SMK NIDA EL ADABI, Parung Panjang, Bogor, analyze the factors that affect it, and measure its impact on personal financial management ability through a participatory training-based education program within the framework of the Student Creativity Program (PKM) entitled "Financial Wisdom in the Digital Era". The method used was educational training with a one-group pre-test post-test design for 30 students who were selected purposively, equipped with observation, in-depth interviews, and structured questionnaires. The results showed that 76.7% of participants before the training admitted to making impulse purchases regularly through online shopping platforms, with the average pocket money being used up in less than 10 days per month. After the training, there was an increase in the average financial management literacy score by 38.4%, from 56.7 to 78.5 (scale of 100), and 83.3% of participants stated that they had a strong intention to prepare a monthly expenditure budget independently. These findings confirm that contextual and participatory educational interventions are able to effectively increase the awareness and financial management skills of vocational school students in the face of an increasingly aggressive digital shopping ecosystem.

Keywords: online shopping, financial management, consumptive behavior, vocational students, student creativity program

INTRODUCTION

The industrial revolution 4.0 and the acceleration of global digital transformation have brought fundamental changes in the trade ecosystem, where online shopping has shifted from a complementary activity to a major consumption modality in various segments of society. The eMarketer report (2023) projects the value of online retail sales globally to reach USD 5.8 trillion by 2023 and is expected to surpass USD 8.0 trillion by 2026, driven mainly by the massive smartphone penetration among the younger generation. UNESCO in its Education for Sustainable Development Report (2022) explicitly identifies unsustainable digital consumption behaviors as one of the real threats to individual financial resilience, while affirming the need to integrate digital financial literacy into formal education systems across member countries. The Organization for Economic Cooperation and Development (OECD, 2020) through a cross-country study of 26 member countries found that the 15–24 age group is the segment with the highest rate of impulse purchases, reaching an average of 4.3 unplanned online transactions per week, which contributes to an average personal financial deficit of 18% of the total monthly income of this age group. This phenomenon is not solely an individual problem, but has become a systemic challenge in the world of education, as financial habits formed in adolescence have been shown to have a significant persistent effect on long-term financial behavior (Mandell & Klein, 2009). This context makes research on online shopping behavior and its impact on the financial management of vocational school students an urgent and relevant academic agenda.

At the global level, the proliferation of online shopping platforms such as Amazon, Alibaba, Shopee, and Tokopedia has created an algorithmically designed consumption ecosystem to maximize the frequency and value of user transactions, by utilizing digital persuasion techniques such as flash sales, limited-time offers, social proof, and personalized recommendations that psychologically make it difficult for consumers to make rational and planned purchase decisions. Research by Verhagen and Van Dolen (2011) published in the Journal of Business Research identified that the interface design of online shopping platforms intentionally leverages the principles of cognitive psychology to exploit consumer decision bias, including scarcity bias, social validation, and the anchoring effect, which collectively increase the probability of impulse purchases by up to 67% compared to transactions in physical stores. The World Bank (2021) in its Digital Financial Inclusion report highlights that the ease of access to digital paylater and credit services has expanded adolescents' consumption capabilities beyond their real income limits, thus creating a vicious cycle of consumptive debt that is difficult to break without structured educational interventions. In the United States, the National Financial Educators Council (2022) reported that impulsive online shopping behaviors among teens lead to an average financial loss of USD 1,389 per person per year, a figure equivalent to the cost of a semester of education at a public university. Similar conditions are also found in Southeast Asian countries, including Indonesia, where the high accessibility of e-commerce platforms is inversely proportional to the financial literacy capacity of its users, especially among adolescent learners who are still in the stage of forming financial identity. The gap between the accessibility of financial technology and the maturity of financial literacy is the central issue in this study.

In Indonesia's national context, the growth of the e-commerce industry has recorded extraordinary developments, with the value of online commerce transactions reaching IDR 476.3 trillion in 2022, an increase of 22.7% from the previous year according to data from the Ministry of Trade of the Republic of Indonesia. The Central Statistics Agency (BPS, 2022) noted that Indonesia has more than 196 million active internet users, with 89.5% of them using the internet for online shopping activities at least once per month. The Financial Services Authority (OJK) in the 2022 National Survey on Financial Literacy and Inclusion (SNLIK) revealed a contradictory but significant fact: although the digital financial inclusion rate has reached 85.10%, the public financial literacy index is only at 49.68%, which means that more than half of the Indonesian population who actively use digital financial services do not have an adequate understanding to manage them optimally. This gap is even sharper in the adolescent age group (15–19 years old), where the financial literacy index only reaches 36.22%, while the penetration of the use of digital wallets and online shopping platforms in this age group actually exceeds the national average (OJK, 2022). The Association of Indonesian Internet Service Providers (APJII) in its 2022 annual report reported that 78.3% of Indonesian teenagers access online shopping applications more than three times a day, with an average usage duration of 2.7 hours per day. These data collectively indicate a financial literacy emergency among Indonesia's young generation that demands serious attention from various stakeholders, including educational institutions.

The problem of financial literacy among vocational school students has a more complex and urgent dimension than other student groups, considering their strategic position as prospective skilled workers who will enter the job market in a short time and face greater financial responsibilities. Research by Lusardi et al. (2010) found that adolescents from lower-middle-income families, who make up the majority of vocational school students in Indonesia, are actually more susceptible to impulsive shopping behaviors due to social pressure to maintain a lifestyle that is perceived as prestigious by peers, a phenomenon exacerbated by social media algorithms that actively promote unrealistic consumption standards. Kotler and Keller (2016) in their consumer behavior framework identified four main factors that influence purchasing decisions, namely cultural, social, personal, and psychological factors, and in the context of vocational school students in the digital era, these four factors interact with each other with an intensity reinforced by the social media ecosystem and online shopping platforms that are constantly present in their daily lives. Sumartono (2002) in a study of consumer behavior in Indonesia found that adolescents who spent more than 3 hours per day on digital platforms had a tendency to consume 2.3 times higher consumption behavior than those who used the platform less than 1 hour per day. This situation is further exacerbated by the availability of paylater features on various online shopping platforms that allow students to make purchases without adequate cash funds, thus creating the illusion of purchasing power that goes beyond their real financial capabilities and potentially plunges them into a spiral of consumptive debt from an early age. Understanding these dynamics in depth is an important prerequisite for designing effective and targeted educational interventions.

SMK NIDA EL ADABI which is located on Jl. Raya Kabasiran, Kabasiran Village, Parung Panjang District, Bogor Regency, West Java, is an Islamic-based vocational education institution that was established in 2013 under the auspices of the Nida El Adabi Foundation and serves students from various socio-economic backgrounds in the peri-urban area of Bogor. As a school based on Islamic values that is committed to producing graduates with noble character, competence, and global competitiveness, SMK NIDA EL ADABI has a strong character foundation as the basic capital for developing students' financial literacy, but special programs that target digital shopping behavior and financial management in the digital era are still very limited. Preliminary observations conducted by the Student Creativity Program (PKM) team from Pamulang University indicate that most students use their pocket money unplanned, with a significant portion allocated to online shopping transactions driven by momentary impulses rather than planned needs. This phenomenon is in line with the findings of research by Rook and Fisher (1995) who defined impulse buying as the tendency to buy spontaneously, without reflection, directly, and immediately, a behavior that is systematically exploited and exacerbated by the design of the user experience on modern online shopping platforms. The PKM-PM (Community Service) program entitled "Financial Wisdom in the Digital Era" carried out by a team of students of the Management Study Program of Pamulang University at SMK NIDA EL ADABI is present as a concrete academic response to this problem, by offering a contextual, interactive, and behavioral change approach to financial education. This research documents and analyzes the process and results of the program as a contribution to the development of personal financial management science and vocational education in Indonesia.

The study of online shopping behavior and its impact on the financial management of vocational school students occupies a strategic position in the financial literacy research map in Indonesia, because it connects three research domains that were previously relatively separate: digital consumer behavior, adolescent financial literacy, and vocational education. Fernandes, Lynch, and Netemeyer (2014) through a comprehensive meta-analysis of 168 studies on the effects of financial education found that financial literacy interventions that are just-in-time, i.e. given at a time relevant to the financial decisions that the participants are facing, have much higher effectiveness than general financial education that is not directly related to the participants' real life context. Kaiser et al. (2022) in a study with a randomized controlled trial design found that financial literacy programs accompanied by simulations of real behavior and direct feedback resulted in significant changes in financial behavior and lasted up to 12 months post-intervention, with the greatest effects seen on the dimensions of spending planning and consumptive impulse control. In the context of this PKM, the educational program designed by the Pamulang University student team integrates these principles by placing the issue of online shopping as a familiar and relevant entry point for participants, then systematically builds awareness, knowledge, and more comprehensive financial management skills. The specific objectives of this study are: (1) to identify patterns and driving factors of online shopping behavior among students of SMK NIDA EL ADABI; (2) analyze the impact of online shopping behavior on the condition of students' personal financial management; and (3) measuring the effectiveness of participatory training programs in increasing students' financial management awareness and skills. Thus, this research is expected to make a meaningful empirical contribution to the development of more effective, relevant, and sustainable school-based financial literacy programs, especially in facing the challenges of the ever-growing digital consumption ecosystem.

IMPLEMENTATION METHOD

This research is designed using a mixed-methods approach with quantitative dominance strengthened by qualitative data, in the framework of evidence-based community service. The intervention strategy applied is a participatory training method based on the principles of adult learning (andragogy) as proposed by Knowles (1984), but adapted to the characteristics of adolescent participants who learn better through concrete experiences, active involvement, and direct linkages to their daily lives. The research design used a one-group pre-test post-test design to measure changes in financial management knowledge and behavior before and after the training intervention, with the target population being all active students in grades X and XI SMK NIDA EL ADABI who met the inclusion criteria. The inclusion criteria set include: (1) being registered as an active student; (2) have access to at least one online shopping platform; (3) have made online shopping transactions at least once in the last three months; and (4) be willing to participate voluntarily in the entire series of training activities. Through a purposive sampling process based on these criteria, 30 students were obtained as training participants representing a diversity of majors, genders, and grade levels. The research instrument consisted of pre-test and post-test questionnaires with 25 questions of financial knowledge and 10 questions of scenario-based financial behavior, semi-structured interview guides, and behavioral observation sheets, all of which have gone through a content validity test by supervisors from the Management Study Program, Pamulang University.

The first stage of program implementation is the identification of problems that are carried out systematically and thoroughly before the main training program is designed. The activity began with a field survey to directly observe the digital ecosystem that surrounds students' lives, including the types of online shopping platforms that are most often used, social media usage patterns, and exposure to digital advertising in daily life. In-depth interviews were conducted with eight students who were randomly selected by stratification by gender and grade level, as well as three homeroom teachers to gain a contextual understanding of the financial problems faced by students in their daily lives. The distribution of baseline questionnaires (pre-test) to all 30 participants was carried out to measure three main dimensions: basic financial knowledge, attitudes towards online shopping and money management, and actual financial behavior which includes the frequency of online shopping, the use of paylater features, saving habits, and the ability to distinguish needs from wants. Documentation studies on school profiles, student financial policies, and existing learning programs are also carried out to obtain a holistic picture of the educational ecosystem that encompasses students. Data from the four sources are then triangulated using the member checking technique to ensure the accuracy and representativeness of the problem picture obtained, so that the training program designed really answers the real needs of the participants.

The second stage is program preparation which involves the development of a training curriculum collaboratively between the student implementation team and accompanying lecturers. The training module is designed following the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model which is an instructional design framework that has proven effective for short-term training programs (Molenda, 2003). Based on the results of problem identification, the training curriculum is structured by covering six core topics that are logically and progressively interrelated. The first topic discusses the phenomenon of online shopping and the psychological mechanisms behind digital consumptive behavior, including how shopping platform algorithms manipulate purchasing decisions. The second topic discusses the fundamental difference between needs and wants as a foundation for rational financial decision-making. The third topic introduces a simple personal finance budgeting technique using the 50-30-20 method (50% basic needs, 30% wants, 20% savings) that is easy to implement in the context of student pocket money management. The fourth topic discusses smart and planned online shopping strategies, including techniques for creating shopping lists, strategically utilizing discount periods, and avoiding misleading promo pitfalls. The fifth topic discusses the risks of using paylater and digital credit features for teenagers who do not have a fixed income. The sixth topic introduces the concept of digital entrepreneurship as a productive alternative to the use of digital platforms which has only been positioned as a means of consumption.

Figure 1. PKM Team of Pamulang University Prepares Training Material "Financial Wisdom in the Digital Era" at the Hall of SMK NIDA EL ADABI

The third stage is the implementation of the core training which is held in the hall of SMK NIDA EL ADABI, Parung Panjang, Bogor, with a conducive, inclusive, and oriented atmosphere towards the comfort of learning for participants. The first session was opened with ice-breaking activities to build rapport and create a fun and non-intimidating learning atmosphere, followed by giving pre-tests and conveying the objectives and benefits of the activity transparently to all participants. The delivery of material in the next session was carried out using a multi-method approach that included interactive lectures with attractively designed presentation slide media, small group discussions of five to six members, case studies based on students' real-life scenarios, and hands-on practice of preparing personal finance budgets using prepared worksheets. All materials were delivered in polite, communicative, and non-judgmental language, acknowledging that impulsive shopping behavior is a very natural response to the stimulation of the digital environment that is designed to trigger purchases, so that participants feel safe to share their financial experiences openly without embarrassment or fear of judgment. The digital entrepreneurship training session was carried out in a simulation format where participants tried to design a simple digital business concept and create an initial capital budget, so that digital platforms that were previously only seen as a means of consumption are now perceived as potential means of production and income. The closing session was filled with group reflection activities where each participant was asked to write down one financial change commitment that they would implement in their daily life after the training, which was then read out in front of the group as a form of public commitment that psychologically increased the probability of implementation.

The fourth stage is an evaluation that is carried out in layers to measure the effectiveness of the program from various dimensions comprehensively. Post-tests are given to all participants immediately after the last training session using instruments identical to the pre-test to ensure the comparability of measurement results. A five-point program evaluation questionnaire was also given to measure participants' satisfaction with the relevance of the material, the quality of delivery, the effectiveness of the method, and the perceived usefulness. Quantitative data analysis was carried out using descriptive statistics that included mean, median, and standard deviation, as well as paired t-test tests to test the significance of the difference in pre-test and post-test scores at a confidence level of 95% ($\alpha = 0.05$), with the help of SPSS software version 26. Qualitative data from interviews and focus group discussions were analyzed using an inductive thematic analysis approach with stages: data familiarization, code naming, theme development, theme review, and reporting of findings according to the guidelines of Braun and Clarke (2006). In addition to direct evaluation, the implementation team also prepared written recommendations to schools regarding strategies for integrating digital financial management materials into regular learning programs, as well as submitting training modules as reference materials that can be used independently by teachers and students. The follow-up interview process was also conducted to explore the behavioral changes that occurred after the training and assess the sustainability of the program's impact.

RESULTS

Results

Participant Online Shopping Behavior Profile Before Training

The analysis of pre-test data and in-depth interview results revealed a comprehensive profile of participants' online shopping behavior and reflected the systemic challenges faced by vocational school students in managing finances in the digital era. Of the 30 participants, 76.7% (23 students) admitted to making impulsive, unplanned online purchases, at least twice per week, with the most frequently used platforms being Shopee (93.3%), TikTok Shop (80%), and Instagram Shopping (56.7%). The frequency of using shopping apps reached an average of 4.1 hours per day, where 63.3% of participants admitted to making frequent or very frequent purchases after watching live shopping content, which leveraged the psychological pressure of limited time and social proof simultaneously to drive instant purchase decisions. Most worrying was the finding that 46.7% of participants had used paylater or digital credit features to finance purchases that could not be covered with available pocket money, suggesting that access to digital microcredit has pushed the boundaries between real financial ability and students' consumption behavior. In terms of financial management, 83.3% of participants did not have a written monthly budget, and the average participant's allowance was exhausted in the first 8.7 days of each allowance period, long before the period ended. These baseline findings consistently confirm the picture outlined in the PKM proposal regarding the urgency of educational interventions at SMK NIDA EL ADABI.

Factors Driving Impulsive Online Shopping Behavior

Thematic analysis of in-depth interview data identified four main categories of factors that drive impulsive online shopping behaviors among participants, which interact with each other and reinforce each other in forming excessive consumption patterns. The first factor is digital social influence, which includes pressure from peers to own trending products, exposure to influencer content that promotes a consumptive lifestyle, and fear of missing out (FOMO) reinforced by limitedstock and countdown timer features on shopping platforms. The second factor was persuasive platform design, where 86.7% of participants admitted that they had difficulty rejecting flash sale notifications and product recommendations that appeared continuously on their smartphone screens, confirming the findings of Verhagen and Van Dolen (2011) regarding the exploitation of consumer cognitive bias by the design of shopping platform interfaces. The third factor is low financial self-control, which is exacerbated by the absence of a clear budget system and spending planning, so participants do not have a strong internal reference to resist impulsive buying impulses. The fourth factor is the accessibility of digital microcredit through paylater features that remove direct financial barriers from the purchase decision, thus causing a dissociation between the act of consumption and its financial consequences, a mechanism that according to Hershfield et al. (2020) fundamentally weakens the ability of individuals to make accurate cost-benefit assessments in the context of digital purchasing decisions. A deep understanding of these four factors is an important foundation in designing effective and targeted training content and approaches.

Training Outcomes: Increased Knowledge and Attitude Change

The results of the post-test conducted immediately after the training showed a significant and measurable improvement in the participant's financial management knowledge dimension. The average score of the participants' pre-test financial knowledge was 56.7 (scale 100) with a standard deviation of 14.2, which indicates a fairly high variation in the level of initial understanding among the participants. Post-training, the average score increased to 78.5 with a standard deviation of 9.1, which means an absolute increase of 21.8 points or equivalent to a percentage increase of 38.4% from the baseline score. The results of the paired t-test confirmed that the difference in pre-test and post-test scores was statistically significant ($t = 10.83$; $df = 29$; $p < 0.001$), so the null hypothesis that there was no significant difference between the pre- and post-training scores could be rejected with a very high level of confidence. The distribution of post-test scores also showed a substantial shift: the percentage of participants in the low knowledge category (< score of 50) fell from 30% to 0%, the medium category (50–74) fell from 53.3% to 30%, while the good category (≥ 75) jumped from 16.7% to 70%. The sub-dimensions that experienced the most significant increase were understanding the psychological mechanisms behind impulsive shopping behavior (+51.2%), understanding of digital credit risk and paylater features (+47.8%), and simple financial budgeting skills (+43.6%), all of which were directly relevant to the online shopping issues that the program focused on.

Figure 2. Group Photo of the PKM Team of Pamulang University, Accompanying Lecturers, and Students of SMK NIDA EL ADABI in the "Financial Wisdom in the Digital Era" Program

Behavior Change and Participant Follow-up Plan

The changes in attitudes and behavioral intentions indicated from questionnaire data, evaluation, and direct observation during training reflect a transformative impact that goes beyond mere knowledge addition. In the personal finance budgeting session, 83.3% of the participants (25 students) managed to complete their monthly budget worksheets correctly and realistically according to the available financial resources, while the remaining 16.7% required additional guidance from the facilitator but eventually completed the task. In the group discussion session on online shopping behavior, there was a very significant shift in perspective: before the training, the majority of participants viewed flash sales and promos as an opportunity to save money, but after getting an explanation of the underlying psychological mechanisms, 80% of participants stated that they would be more critical and selective in responding to online shopping promotions. The change commitments written by participants at the end of the training session showed an encouraging depth of reflection: 83.3% of participants committed to recording daily expenses, 76.7% committed not to use the paylater feature except in an emergency, and 73.3% committed to implementing the principle of a waiting period of at least 24 hours before making unplanned online purchases. Program satisfaction evaluations showed an average score of 4.41 on a 5-point Likert scale, with 96.7% of participants stating that the training materials were highly relevant to their daily lives, a strong indicator of the appropriateness of the contextual approach taken in program design.

DISCUSSION

The findings of this study as a whole confirm and enrich the existing literature on the relationship between online shopping behavior, financial literacy, and the effectiveness of educational interventions in adolescent groups. The high prevalence of impulsive shopping behaviors found (76.7% of participants) exceeded the average reported by international studies in similar age groups, indicating that vocational school students in peri-urban areas of Indonesia face intense digital consumption pressures without adequate financial resilience. This is in line with the theoretical framework put forward by Xiao and O'Neill (2016) which affirms that formal financial education is a significant protective factor against maladaptive financial behavior, but is only effective if it is delivered in a context that is relevant to the actual financial challenges faced by participants. The effectiveness of the training program implemented in this PKM, as reflected by the increase in knowledge score by 38.4% and the high level of participant satisfaction (4.41/5.00), provides empirical evidence supporting the context-based participatory training approach as a superior strategy over conventional financial instruction that is abstract and independent of the reality of the participants' lives.

These findings have important policy implications for the Ministry of Education, Culture, Research, and Technology in the context of SMK curriculum development: the integration of contextual digital financial management modules into productive subjects or character development programs can be an efficient and far-reaching systemic solution. In addition, synergy between educational institutions, universities, and the Financial Services Authority (OJK) needs to be strengthened in order to build a sustainable financial literacy ecosystem in vocational education units. Limitations of this study that need to be acknowledged include the absence of control groups, limited sample sizes to one school, and limited follow-up periods to assess the sustainability of behavior change, which opens up space for further research with a more rigorous design, more representative samples, and wider scope to produce stronger scientific evidence on the long-term impact of similar programs.

CONCLUSION

This community service research succeeded in comprehensively documenting and analyzing the problems of online shopping behavior and its implications on the financial management of SMK NIDA EL ADABI students through the implementation of the Student Creativity Program "Financial Wisdom in the Digital Era". The main findings of this study confirm that impulsive online shopping behavior is a prevalent problem and has a real impact on students' financial condition, with 76.7% of participants making unplanned purchases regularly and 83.3% not having a written monthly financial budget before the training intervention. The implemented participatory training program proved to be effective in significantly improving participants' financial management knowledge, with an average score increase of 38.4% (from 56.7 to 78.5) confirmed by statistical tests ($t = 10.83$; $p < 0.001$). Positive changes in attitudes and behavioral intentions were also strongly indicated, with 83.3% of participants committing to preparing a financial budget and 76.7% committing not to use the paylater feature except in emergency situations. Based on these findings, there are four main recommendations proposed: (1) integrating digital financial literacy modules into the vocational curriculum as mandatory content; (2) the development of sustainable financial assistance programs with a structured follow-up mechanism; (3) strengthening cooperation between schools, universities, and OJK in building a financial literacy ecosystem in vocational education units; and (4) the need for follow-up research with quasi-experimental designs, larger samples, and longer follow-up periods to produce stronger evidence regarding the long-term impact of similar programs.

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