

## **APPSHEET DEVELOPMENT ON MULTI- GENERATIONAL CHILDREN'S ENTREPRENEURSHIP**

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### **Abstract**

This study aimed to investigate the development of AppSheet in advancing multigenerational children's entrepreneurship research. Emphasizing the necessity of immersive data interaction to capture the complexity of this field, the authors critiqued traditional analysis tools as limiting, advocating for innovative metadata management methods. They showcased AppSheet's efficacy in simplifying application creation across mobile devices, tablets, and web browsers, leveraging cloud-stored data. Using the Design-Based Research (DBR) method, the study evaluated AppSheet's user interface, user experience, and metadata analysis capabilities, affirming its effectiveness in data collection, analysis, and management. The findings underscored high scores in readability, media compatibility, and suitability, positioning AppSheet as a pivotal tool for supporting multigenerational children's entrepreneurship research. The study concluded by highlighting the enduring significance of religious, family, cultural, and educational values, and the evolving parental and educational approaches that shaped entrepreneurial aspirations across generations.

Keywords: AppSheet, Intergenerational learning, Metadata management, Multigenerational children's entrepreneurship.

### 1.Introduction

Applications used in intergenerational learning research are limited to checklists for recordkeeping [1]. The application is more about the use of technology in implementation [2-7]. It is not about making it easier to control research metadata in multigenerational families, like gamified for informal learning [8]; augmented reality for informal science learning [9]; and digital postcards [10].

This study aimed to investigate the role of AppSheet in advancing multigenerational children's entrepreneurship research. AppSheet, for instance, facilitates this meticulous process, organizing and controlling metadata, supporting researchers in the gathering of qualitative data in their quest for deeper understanding and innovative outcomes. This platform is especially helpful for companies who need unique apps but don't have a lot of programming experience. In its implementation, Appsheet has been widely used by researchers and scholars in terms of cashiering and managing orders [11]; and employee and student attendance [12]. This research explored AppSheet's role in enhancing multigenerational children's entrepreneurship research. Unlike traditional tools, AppSheet offers a sophisticated approach to organizing and controlling research metadata. It aids researchers in gathering qualitative data, facilitating deep data interaction, and extracting empirical information. AppSheet streamlines metadata management and supports innovative outcomes, making it beneficial for researchers and scholars without extensive programming expertise.

### 2.Literature Review

#### 2.1. Multigenerational children's entrepreneurship

Several past studies have discussed how children's entrepreneurship development collectively highlights the multifaceted impacts of nature or heredity and nurture or environment. It is shown by the increasing number of publications regarding entrepreneurship [13-15]. One of the effective methods in the development of society is parental involvement [16-19]. Parental entrepreneurship significantly enhances the likelihood of children pursuing entrepreneurial paths, with a notable 60% increase observed. Post-birth factors are pivotal in shaping intergenerational entrepreneurial dynamics, outweighing pre-birth influences [20]. Evident among third-generation, where having self-employed fathers and grandfathers positively influences entrepreneurial tendencies [21, 22]. A combination of the trait's environment and genetic-based impact is depicted in Fig. 1.

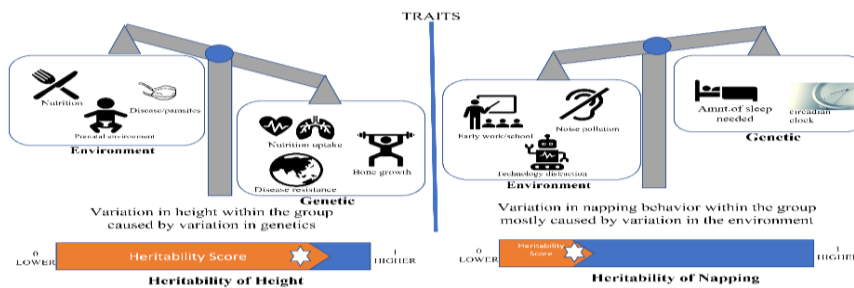


Fig. 1. Combination of a trait's environment- and genetic-based impacts.

Future entrepreneurial intentions are heritable, influenced by similar genetic factors affecting entrepreneurial expression and inclination [23]. Grandparents play a direct or indirect role in shaping their descendants' ambitions, where the impacts of parents and grandparents sometimes counterbalance each other [24]. Moreover, entrepreneurship education plays a pivotal role as a significant moderating factor. It mitigates the relationship between subjective norms and perceived behavioral control while strengthening the link between subjective norms and entrepreneurial attitudes [25]. In this era of technology and information, the theory of intergenerational learning develops not only family life but also practical skills and mastery of technology in business activities and things related to the learning needs of each generation [26-28].

## **2.2. App Sheet**

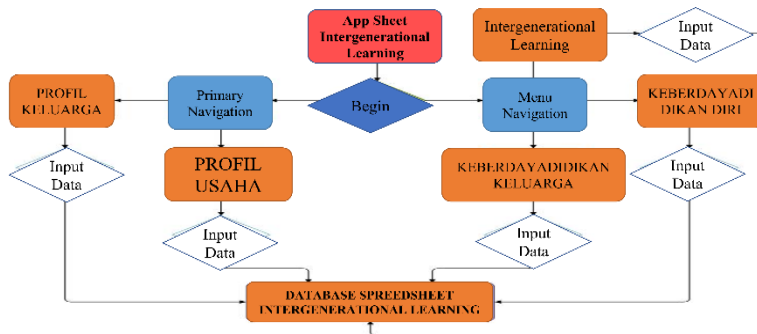
The web-based platform is one of the technologies that can help human beings [29, 30]. AppSheet is a web-based platform that streamlines the process of creating and distributing applications for mobile devices, tablets, and web browsers using data stored in the cloud. The project was first launched as a separate endeavour in 2014 and later integrated into Google Cloud in January 2020. AppSheet is a useful tool for collecting data on interactions, training efficacy, and knowledge transfer efficiency. Researchers may easily identify trends and consequences by tagging and categorizing data using the platform's metadata analysis features [31].

## **3. Method**

This form of research fell under the category of design-based research. The research process consisted of four distinct stages: analysis, design, development, and assessment. The analysis was conducted by observing the execution of grounded theory in multigenerational children's entrepreneurship research, utilizing data collection procedures such as interviews, and depending solely on recording and writing tools. The media specialist handled this as a developmental stage and validation test. Following the outcomes of the design and development process, the AppSheet underwent a review based on expert input. This evaluation served as a recommendation for further study.

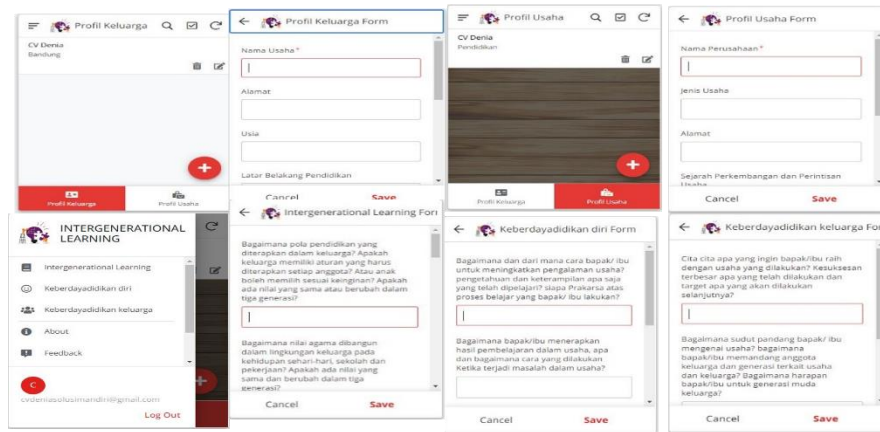
## **4. Results and Discussion**

The results of the AppSheet development research, applying the Design-Based Research (DBR) method in the multigenerational children's entrepreneurship study, encompassing analysis, design, development, and evaluation. The analysis process begins with identifying needs, observing problems, and assessing potential in controlling research metadata using technology. The development of this AppSheet application aims to collect and control data more freely, anytime and anywhere, allowing it to be interpreted equally well by both the interviewer and interviewee simultaneously. The design process for AppSheet includes meticulous attention to user interface and user experience, ensuring seamless mobile data collection for interviewers. Through the platform's metadata analysis features, researchers effectively tag and categorize data, facilitating the identification of trends and outcomes. Figure 2. illustrates a standard AppSheet workflow in research focused on multigenerational children's entrepreneurship.



**Fig. 2. Overview of typical AppSheet workflow on multigenerational children's entrepreneurship research.**

During the development phase, efforts were made to facilitate researchers and interviewees together in inputting and controlling research data. This included family profiles, business profiles, the intergenerational learning process across three generations, self-empowerment, and family empowerment. This development aimed to minimize potential information gaps, errors, or omissions effectively. Figure 3. provides an overview of the application template.



**Fig. 3. Process use the AppSheet on multigenerational children's entrepreneurship research.**

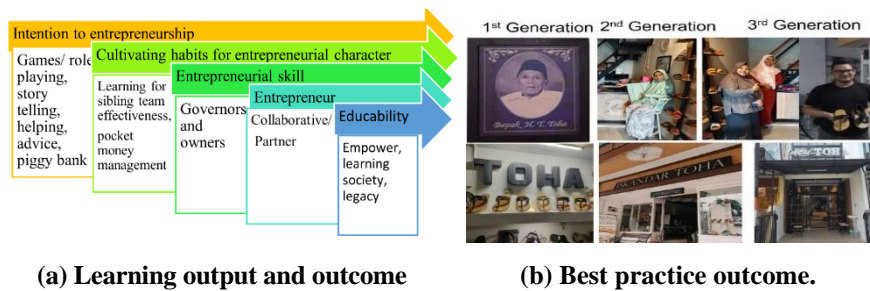
In the evaluation phase, Language and media specialists evaluated the AppSheet about multigenerational children's entrepreneurship research using criteria like application readability, media compatibility, and suitability for information demands. Multiple validation tests were conducted, focusing on requirements, media, and user readability/ease of use. The AppSheet was validated with 96% and 98% for readability, media compatibility, and needs suitability, indicating its validity in the very good category.

The Sundanese entrepreneurial generation instils distinctive religious, economic, and cultural values in their children to promote their development and well-being. Table 1. illustrates the intergenerational learning process and in multigenerational children's entrepreneurship.

**Table 1. Intergenerational learning process in children's entrepreneurship.**

Aspects	G-1	G-2	G-3
<b>Role of parent</b>	Coach, Motivator, guide	Facilitator, and partner	Mentor, consultant, delegator
<b>Need of children</b>	Basic need, helping the family	Helping, hobby need	Lifestyle
<b>Intergenerational learning Model</b>	Upward-downward oriented/ non-sharing	Open sharing	Collaborative sharing
<b>Media and process</b>	Family internships	Family internships, customer need, and associates	Multiway

The old age has experience in business production and the younger generation who are skilled in mastering technology for business development and marketing [32]. Family size, socio-economic status, and parental attitudes directly impact education, as various factors influence it [32]. Parental attitudes and behaviours influence an individual's self-efficacy in career decision-making and academic satisfaction, which are linked to education [33]. The multigenerational process and stages from intention to educability stage are explained in Figs. 4(a) and (b).



**Fig. 4. Multigenerational children's entrepreneurship Output and Outcome.**

Regarding parental educational outcomes, early childhood focuses on cultivating habits for entrepreneurial character formation, adolescence emphasizes learning for sibling team effectiveness, early adulthood involves education as governors and owners, and adulthood centres on education toward creating a learning society for legacy and empowerment [33]. Intergenerational learning impacts educability through the transmission of knowledge, skills, and values across generations, discussing educability also involves the learning process and involves the entire educational system and community education programs [34].

**5. Conclusion**

The research on multigenerational children's entrepreneurship using the AppSheet development through DBR methodology involved comprehensive phases of analysis, design, development, and evaluation. The AppSheet was developed to meet research metadata management needs and provide accessible, flexible data

collection for both interviewers and interviewees. Its design optimized mobile usability and included features for efficient data tagging and trend identification, supporting research on multigenerational children's entrepreneurship with high scores in readability and media compatibility. The study's findings emphasize enduring values like religious, family, cultural, and educational practices, alongside evolving parenting and educational models across generations, highlighting implications for entrepreneurial education and societal development.

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