

Market Helper Indonesia

(Beyond Interior Design Space)

Ruth Euselfvita Oppusunggu*, Martin Luqman Katoppo, Whilhelmina Martina

School of Design
Pelita Harapan University
Tangerang, Indonesia

*200rumahbesi@gmail.com, martin.katoppo@uph.edu, whilhelminamartina@gmail.com

Abstract—Market Helper Indonesia (MHI) is a mobile application proposal developed in 2018 by interior design students from 8-week class of Design, Society and Environment, at School of Design, Pelita Harapan University. MHI was first to answer a challenge from Perumda Pasar Jaya on why urban millennial as the potential future customers were reluctant to come to traditional market. This situation endangered the income of small traders and the existing of urban traditional markets. Therefore, MHI was created to solve these problems and has grown into a proposal to also solve healthy diet for families and fair trading for farmers and fishermen. This paper shows integrative design thinking and prototyping as the teaching method to help and encourage students to be creative in design an applied system, which is beyond their major study, to solve real problems for their environment and society.

Keywords: Market Helper Indonesia, creativity, design thinking, traditional market, mixed research method

I. INTRODUCTION

Design and creativity are menu of life in Design Interior, Pelita Harapan University (UPH). The task of interior design student is to apply design and creativity into space. Then a challenge came, in collaboration with Perumda Pasar Jaya as the operator of traditional markets in Jakarta, to invite Millennial, as the potential future customers, to come to traditional market. The traditional markets, as the main support of regional economy, are having tough competitors from modern markets like mini markets, supermarkets, and malls. Therefore this competition is devitalizing the traditional markets and necessitating them to neaten themselves [1]. This challenge is either space problems or space potentials. Nevertheless the authors decided to take this challenge with design interior students in Design, Society and Environment (DSE) class using mixed research method. So the students could exercise their creativity and interior design knowledge to answer academic calling of higher education vision –the *tridharma perguruan tinggi*- on education, research and community service.

Before, mixed research method had been applied to Jakarta traditional market. It was applied to help Santa market Jakarta bustling again with customers [2] and to be inclusive for existing and senior customers [3], also to help East Tebet market having appreciation system for clean market [4]. But never the method has been used in traditional market to maintain and increase transactions from customers, especially the new ones,

and small traders. And this paper is about that. At the end of the research, the solution was more than facilitating economic transactions, it bridged different cultures between especially new customers and existing traders, cash payment into digital ones, diets based on assumptions into diets based on measurement, and more. The solution is a proposal mobile application called Market Helper Indonesia (Figure 1).

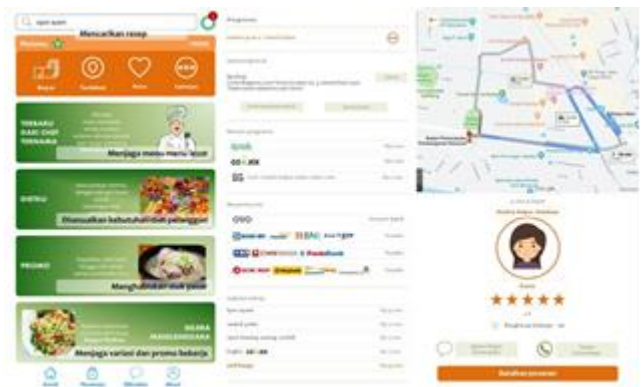


Fig. 1. Screen shots of Market Helper Indonesia mobile application.

II. METHODS

Market Helper Indonesia were born from a team of students assisted by one assigned lecturer, applied 8-week mixed research method in 2018 DSE class of Interior Design program study, Pelita Harapan University. DSE was designed to accommodate *tridharma* (education, research, community service), the national higher education vision, and encouraged students applying the vision into their surroundings. This class tried to inspire students applying their design skill to find solutions for communities and environments.

DSE adopted the mixed research method which consisted of four stages: *temukan* (discover), *bedakan* (ideation), *jadikan* (prototype), and evaluation and sustainability [5]. Each stage was elaborated into steps (Table 1). Although all stages were important but each stage had one important step that should had been done wholeheartedly so the students could make comprehensive solutions. There were community engagement (*temukan*), how might we questions (*bedakan*), iterative prototyping (*jadikan*), and creating learning plan (evaluation and sustainability). The research was devoted in East Tebet Market

while this market was subject for future renovation and manager turned over.

TABLE I. 8-WEEK MIXED RESEARCH METHOD OF MARKET HELPER INDONESIA CONSISTED OF SUBSEQUENTLY 4 STAGES AND ELABORATED STEPS

3 weeks	Temukan (discover)	
	Site visit	Data collecting, observation without assumption
	Team building	According members' strengths and weaknesses
	Community engagement	At least with 8 different stake holders of a community: 1) Millennial trader 2) Tebet small traders 3) management 5) housewife/female visitors 6) male worker visitor
	Talk to experts	At least with 4 experts/extreme users: 1) manager 2) retail owner 3) Millennial
	Immerse observ.	1) West Tebet market 2) Sinpansa market
	Analogous observ.	1) Shopee online shop 2) Santa hipster market
1 week	Temukan (ideation)	
	3 themes	Grouping data into three themes
	Insight statements	Critizing why themes were important for stakeholders
	HMW	Turning themes into 'how might we' questions
	Solution brainstorming	Formulating three HMW into innovative (wanted, possible, long lasting), practical and affordable solutions
	Journey map	Building user experience map to identify problems & potentials when solutions applied
3 weeks	Jadikan (prototype)	
	Prototype 1	Presenting the solutions to representatives of community and collecting feedback
	Prototype 2	Refining prototype and formulating prestes & post test
	Prototype 3	Finalizing to the closest ideal prototype which congruent with research budget
	Prototype 4	Introducing the prototype to the community and collecting pretest, design intervension by letting & observing the communityto use the prototype, collecting post test through 30 quantitative questioners or 15 qualitative user experience observations
1 week	Evaluation & sustainability	
	Evaluation & sustainability	Which worked, which did not
		Developing sustainable revenue model
		Identifying capabilities required to deliver solutions
		Planning a pipeline solutions
		Creating implementing timeline
		Planning mini-pilots and iterations
Creating learning plans & reflections		

A. Temukan (Discover)

This stage consisted of site visit, team building, community engagement, talk to experts, immerse and analogous observations. In site visit, the students observed the subject without any assumption and rediscovered their own strengths

and weaknesses. Rediscovering helped them building a compact team to distribute scope of work according to their talents.

Community engagement was substantial step demanding sincere quality of time engagement, so the students could fluently interview at least 8 representatives of stake holders. If this step was not carried out exquisitely, the students would not discover the essential problems and potentials, and then they could not build the right solutions. After this step, the students interviewed at least 4 experts to deepen their discovery. The expert background and knowledge had to be diverse and related to research subject. They could be a community members (who were different from the community engagement step), extreme users, observers or researchers, and political or power holders of the research subject.

Then the students mingled to experience the lives of at least three immersed communities which had equal contexts with the research subject's, and at least three analogous communities, which had no equal contexts but the same characteristic s of problem or potential.

B. Bedakan (Ideate)

This stage consisted of grouping data from the previous stage into three themes for the students to critize with their insight statements why they were important to stakeholders. Then the themes were turned into three questions of 'how might we' which would empowered community to develop their gems of problems and potentials into solutions. This was another substantial step that lecturers should had intensely intervened and criticized. The results should had finalized into innovative (wanted, possible, long lasting), practical and cost effective (congruent with research budget) solutions. This stage was closed with journey map showing user experience to identify problems and potentials in applying the solutions.

C. Jadikan (Action)

This stage consisted of four prototypes. The first prototyping included presenting the solution to the community and collecting feedback. The second prototyping was refining prototype and formulating pre-test and post-test for measured learning plan. At the third step, the students finalized the prototype as ideal as it could be and congruent with research budget. The last step consisted of introducing the prototype –the dummy of the application - to the community, letting and observing them use the prototype, collecting post-test through at least 15 qualitative user experience observations or 30 quantitative questioners. The last stage was for evaluation and sustainability for iterative process of solutions.

In some cases, adjustment had to be made because of reluctance of stake holders against research subjects or engagement. Most of the time, the authors chose to adjust steps into the same time frame and left the solution refinement, on the account of iterate pattern, for future development.

III. RESULTS AND DISCUSSION

The findings emerged in stage *bedakan* (ideation) and became clearer by the end of this research: 1) It will be longer and time-consuming to develop market competition awareness

for small traders to immediately attract new and young customers 2) The Millennial, especially the urban middle class, are the prospect new and young customers. But they have grown up knowing the uncomfortable physical condition of traditional markets. The Millennial need more - something pleasant, simple or practical and “online” 3) It is not easy and takes time to change traditional market physical conditions as clean and comfortable as modern markets like supermarkets (Figure 2, top image).

The findings helped the students elaborate the initial question from Perumda Pasar Jaya, on how to invite Millennial to visit traditional market, into more comprehensive and empowering final ‘how might we’ question, on how to help traditional market small traders to get and regenerate sustainable profit in simple ways in unkept physical conditions (Figure 2).



Fig. 2. A series of Market Helper Indonesia presentation of 2019 Indonesia Development Forum. Top-bottom: The findings, the scopes of solutions, and the potential future solutions through iterative process.

This was possible because mixed research method bridged over many constraints, enabled students to investigate subject research into quantitative or experimental innovations and qualitative or experiences and appreciations of participatory design. Therefore, this alternative method helped students to have comprehensive research understanding, thorough design values, and responsive innovations to social context [5]. In other point of view, the main benefit of using digital research – through the dummy of the application– gave the authors ability to explore new insights and findings by engaging closer with traditional market customers –especially customers with new technology of smart phone- and bringing their aspirations to life [6]. The mixed research method also was a powerful tool for the students to make and keep their solutions innovative: the Market Helper Indonesia (Figure 1).

MHI was a mobile application proposal helping customers to buy raw food or recipe ingredients from traditional market small traders, and then delivering customers’ orders to any requested address. In relative short time (8 weeks), design thinking can encourage participants to come up with incremental solution (existing offerings for existing users) to evolutionary solution (either new offerings for existing users or existing offerings for new users) and revolutionary solution (new offerings for new users) [7].

By the end of 2018 DSE class, MHI was considered as revolutionary solution but only reached at possible online transaction between customers and traditional small traders. MHI started to get its real refinement when the authors submitted MHI into a startup competition and discussions with related experts or users like political and power stakeholder, economist, nutritionist, micro-economy activist, and extreme users. This shows that an iterative process -including interviews, discussions and brainstorming’s with diverse experts or extreme users- has been keeping a solution to be revolutionary [8].

Therefore, the scopes of solution that MHI offers has grown beyond maintaining and sustaining economy transaction. MHI has potentials as shown in Figure 2, middle image: 1) to help emerging working moms and 35-million Millennial, as the prospect future customers, getting everyday-fresh, affordable, right portion and ready-to-cook food. Meanwhile MHI also provides booths in traditional markets to help 22.4-million senior citizens coping with stairs and slippery floors so they can have the same services offline and maintain their existing socio-cultural interactions in traditional markets 2) through customer orders and reviews, to encourage 12.6-million traditional market small traders starting and upgrading their products and services into customer-oriented ones 3) and in the end, to be hand in hand with 35.7 farmers and fishermen distributing crops to the right demands according to customers’ preferences 4) by giving everyday-fresh, ready-to-cook and right portion of ingredients according to customers’ chosen recipes, to help customers having better food planning and encouraging healthy customized balance diets 5) to sustain the economy of traditional small traders in collaboration with local market managements, online delivery services, bank and e-wallet, food technology institutions and industries, farmers and governmental institutions (Figure 2, middle image). Other research also showed that in all customer segments, when customers not only perceived online shopping useful but also

compatible with their lifestyle –as smart phone users- they would build favourable tendency toward online shopping [9]. MHI as an online transaction process also has a promising prospect as shown in 5 methods (People, Place, Process, Promotion, Physical Evidence) to improve traditional market. When Process included marketing and electronic commerce, and market branding with the help of online platform [10]. Because of these possible impacts, the authors got invited by National Development Planning Ministry to present MHI in idea sharing/market session of 2019 Indonesia Development Forum as shown on Figure 3 [10].



Fig. 3. Authors presented Market Helper Indonesia in 2019 Indonesia Development Forum held by National Development Planning Ministry.

Therefore, UPH interior design students are trying to reconfiguration design when space is mutable rather than fixed and anticipated over its use of time. Reconfiguration design enable the students using less space while meeting multiple programmatic needs [11]. Moreover, MHI also supports traditional market as economic, social and cultural place making. Because through the neatly of dovetail of localism and territoriality, a place was elevated beyond just a physical location into a trial of physical components, activities and meaning interwoven by a abundance of actors bounded by intergenerational social networks [12]. Another research also gave promoting hope that cultural promotion and routine activities held by merchants in traditional market would have a positive impact on social capital formation [13]. Therefore, rather than pulling down the half empty traditional market building, MHI encourages planning to accommodate future renovations. Rather than demolishing new vacant building stock, MHI, with its future business plan, shows when design facilitates hacking or harvesting the building to retain its embodied energy while repurposing the building to new and diverse need of the future [11]. The possible impacts MHI can deliver are in-tune with universal design concept where design can improve our performance, health and wellness and society participation [14].

IV. CONCLUSION

Interior design students' creativity can go beyond their subject study because:

The 8-week mixed research method can bridge many constraints, many cultures, many hopes, and help student act as researcher, designer, and community engagement initiator to

build comprehensive findings, innovative outcomes and right solutive action.

To keep a solution innovative, the student should refine his/her solution in iterative process of mixed research method.

Introducing and involving students to implement national higher education vision is not only encouraging them to academic calling but also broaden their perspective of creativity and interior design beyond their subject study.

Besides showing the formal mixed research method, MHI also reflecting innovation engine for creativity. When there are 6 characteristics of innovation engine that facilitate a person to be creative [15], DSE class encourage all to happen in MHI. The internal innovation engine consists of: Antusias *attitude* that how minicule is a student's contribution, his/her part can generate to a better change. Furthermore the mixed research method enables students applying their design *knowledge* into *imaginative* solutions. The external innovation engine consists of: The specific *habitat* for MHI to work is in new and old between customers and traders, e-payment and cash, comfortable and basic shopping necessity, future space requirement and half empty existing building. And the great *resource* of MHI project is not the money but mutual collaborations. Moreover, MHI was born from millennial students with their Millennia, collaborative and digital *culture*, that inviting other generations or cultures to have helpful and smooth transition (Figure 4).

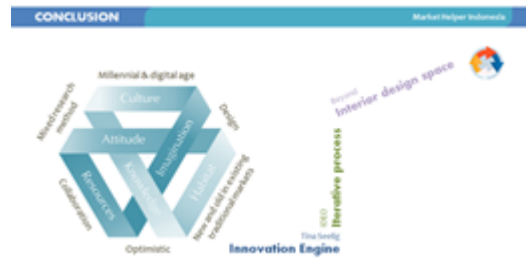


Fig. 4. Beside the mixed research method, the innovative engine enable interior design students to build creative solutions.

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