MONITORING EVALUATION

DKI JAKARTA CITY'S REUSABLE PACKAGING MONITORING-EVALUATION RESEARCH STUDY ON FOOD DELIVERY

On behalf of:
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection
of the Federal Republic of Germany

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Jakarta kota kolaborasi

DKI JAKARTA CITY'S REUSABLE PACKAGING MONITORING-EVALUATION RESEARCH STUDY ON FOOD DELIVERY

Prepared for the Collaborative Actions for Single-Use Plastic Prevention in Southeast Asia (CAP SEA) Project

Implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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By Indonesia Plastic Bag Diet Movement (GIDKP)
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FOREWORD

The global project Export Initiative Environmental Protection, funded by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), aims to create sustainable and favourable conditions for introducing resource-efficient, climate-friendly, and innovative technologies in its target countries. For the regional project "Collaborative Action for Single-Use Plastic Prevention in Southeast Asia" (CAP SEA), the module aims to reduce disposable plastic waste by focusing on prevention and reuse. To achieve this, CAP SEA provides policy advice to stimulate a recycling economy, capacity development for key stakeholders, local pilot activities, and support for innovative business models for single-use plastic (SUP) prevention.

Since 2017, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH supports the BMUV initiative by providing advisory services and coordinating activities for the development of framework conditions that enable the introduction of environmental approaches and technologies in partner countries. The project measures are implemented in collaboration with bilateral German technical cooperation projects in seven countries (Egypt, India, Indonesia, Malaysia, Jordan, Thailand, and Ukraine) but also in global modules. Local staff are the point of contact for other ongoing projects carried out by BMUV grant recipients in these countries. This promotes the regular exchange of information and experiences between the projects and creates synergies. In addition, the projects are better embedded in the strategies of the target countries.

The supported measures build up technical and institutional know-how and foster knowledge and technology transfer, raise environmental awareness, and build capacities, thereby contributing to the transition to more circular economies and the achievement of specific sustainable development goals (SDGs).

General information about the project module in Southeast Asia: Indonesia
In Indonesia, CAP SEA aims to contribute to the achievement of targets stated in the National Action Plan on Marine Plastic Debris 2017-2025 (reduction of plastic waste by 70% by 2025 compared to 2017) and the Roadmap to Waste Reduction by Producer (through the Ministry of Environment and Forestry (MoEF) Regulation P.75/2019: reduction of packaging waste from producers by 30% by 2029). In addition to that, CAP SEA actively participates in the Indonesia National Plastic Action Partnership (NPAP), a platform for public-private collaboration to: (1) Reduce avoidable plastic use and avoid the consumption of 540,000 tonnes/year of plastics in 2025 (6% of projected plastic waste generation in 2025), through policy and behaviour change and new business models; (2) Substitute 740,000 tonnes/year of plastics with alternative materials (8% of projected plastic waste generation in 2025), and (3) Collect, safely dispose, and recycle unavoidable plastics with the goal of making all plastic waste a valuable commodity.

CAP SEA Indonesia is developing four work packages, of which work package 3 is the pilot project of business model implementation that aims at reducing SUP packaging by providing alternative reusable packaging for food (beverage) delivery of ready-to-eat food with one local municipality. The Special Capitol Region of Jakarta (locally named Daerah Khusus Ibukota or DKI Jakarta) is chosen as the local municipality pilot project because DKI Jakarta City hosts 10.5 million people and is by far the biggest agglomeration in Indonesia and its capital. DKI Jakarta's Governor has banned SUP bags by issuing the Governor Regulation Np. 142 of 2019 on the Obligation to Use Environmentally Friendly Shopping Bags in Shopping Malls, Convenience Stores, and Traditional Markets.

DKI Jakarta City's Reusable Packaging Monitoring-evaluation Research Study on Food Delivery

The objectives of this report are to present the findings from the recently conducted survey on the monitoring-evaluation practice regarding food delivery which is a continuation of the previous baseline survey, namely to find out the numbers of SUP that are being reduced (potentially), numbers of Allas' subscribers' participation, magnitude of Allas' subscribers' intention to prefer a new scheme, as well as ideas for behaviour change program initiatives from customer who participated in the pilot project.

"'Single-Use Plastics' often referred to as disposable plastics, are commonly used for plastic packaging and include terms intended to be used only once before they are thrown away or recycled. These include, among other items, grocery bags, food packaging, bottles, straws, containers, cups and cutlery" (reference: United Nations Environment Programme, UNEP (2018): Single-Use Plastics: A Roadmap for Sustainability)

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EXECUTIVE SUMMARY

The issue of single-use plastic is still a global challenge today, including in single-use food packaging containers. Driven by its practical nature and accelerated by changes in people's behaviour during the COVID-19 pandemic, waste from ordering food online became a new problem that must be addressed immediately. This study aims to learn deeper about the initial attitudes and behaviour of Jakarta citizens in using reusable food containers that can be returned. The initiative is fronted by Allas, a start-up company focused on developing solutions for the reuse of containers for ready-to-eat meals ordered online.

Through the online survey method, GIDKP held monitoring evaluation survey that succeeded in reaching 45 and 55 respondents in two periods of data collection. In general, respondents claimed to have implemented reuse behaviour that is now well-established in their daily lives. Using the reuse model initiated by the Ellen MacArthur Foundation, this report identifies various behaviours that have been carried out by respondents, for instance, refill at home (e.g., filling drinking water bottles at home). This refill behaviour strongly boosts the increase of other reuse behaviours, in particular, return from home and return on the go.

Respondents showed strong intentions to continue using Allas and stated their expectations that Allas would expand to other merchants and also business models. This study continues the previous study about how people's attitudes and behaviour in adopting reuse initiatives. Various new findings and trends were discovered in this survey, as a complement to the results of the previous baseline survey, as follows:

- The number of uses of Allas containers during 2022 is 1,884 containers, which roughly means that the Allas initiative has been able to reduce 1,884 single-use plastic containers from ordering food online.
- It is recorded there are 677 people as Allas subscribers' participation during midline-monev period. This means that there was an increase of 102% when compared to baseline survey (330 people). Even the general respondents from this survey were from millennial generation with the age range of 20-40 years, there has been an increase in the number of respondents aged over 40 years (X generation).
- Allas has expanded their business coverage into several schemes, including events, catering, and borrowing of drinking cups. Overall, it can be concluded that respondents seemed to have high interest in trying the new Allas service, especially borrowing of drinking cups.
- Education, increasing the capacity and role of actors, improvement of service facilities in general, and customer-specific aspects: culture and incentive formation are ideas or suggestions from respondents to improve behaviour change program toward reuse ecosystem.

1. BACKGROUND

Waste accumulation in DKI Jakarta Province in the last three years has reached more than 7,000 tons per day[1], exceeding the capacity of the landfill. 14% of the total waste generation is plastic waste that is difficult to process. Only less than 7% of plastic waste can be recycled. Plastic waste generation in DKI Jakarta Province is the third largest type of waste after organic and paper type waste or 14.02% of the total waste generated and 30.31% of inorganic waste generated in 2021[2]. One of the dominant types of plastic that becomes trash is plastic shopping bags that come from shopping centres and retail.

However, there are other types of disposables besides plastic bags—mainly food containers, mostly in the form of Styrofoam and transparent plastic—that also created environmental problems (especially in Jakarta). A study conducted by the Oceanographic Research Center of the Indonesian Institute of Sciences (locally named Lembaga Ilmu Pengetahuan Indonesia or LIPI) supported the claim. The study—the first waste monitoring study conducted monthly in Indonesia—has identified six types of waste and 19 categories of plastic waste from nine river estuaries in Jakarta, Tangerang, and Bekasi from June 2015 to 2016. The study found that about 59% of the waste flowing in the nine river estuaries was plastic waste which was dominated by Styrofoam[3]. The World Health Organization (WHO) and the Environmental Protection Association (EPA) categorize Styrofoam as an object that contains unhealthy ingredients. Materials for making Styrofoam containing polystyrene and CFC gas (freon) can damage the ozone layer. In addition, the manufacture of Styrofoam can also cause air pollution in the form of an unpleasant odour and can interfere with breathing[4].

In 2019, online food delivery services partnered with the Indonesian Plastic Bag Diet Movement (locally named Gerakan Indonesia Diet Kantong Plastic or GIDKP) to help educate the public on plastic waste through the GoGreener Program that aimed to help solve the single-use plastic waste crisis by promoting outlets that provide a "separate cutlery kit" option via an in-app banner. This initiative seeks to promote awareness of sustainable practices and appeal to eco-conscious customers. Moreover, the current COVID-19 pandemic condition requires people to carry out all activities from home which has also caused online shopping transactions to increase. According to the LIPI study in 2020, during the period of the Large-Scale Social Restrictions (locally named Pembatasan Sosial Berskala Besar or PSBB) of the COVID-19 pandemic, there was an increase in transactions of 62% in the marketplace sector and of 47% in the food delivery service sector. Plastic packaging used for shipping is more varied (including bubble wrap, polystyrene foam, plastic tape, plastic raffia, or plastic bags)[5]. This concern has also prompted the Plastic Free Parade movement (locally named Pawai Bebas Plastik) to send an open letter to all e-commerce stakeholders, both marketplaces and food delivery services, to provide fewer plastic options to consumers. Plastic Free Parade is a campaign initiated by GIDKP, the Econusa Foundation, Divers Clean Action, Greenpeace, Pandu Laut Nusantara, Pulau Plastik, Indorelawan, and WALHI Jakarta as a form to encourage the community to jointly fight single-use plastic pollution.

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1 Central Bureau of Statistics, DKI Jakarta. Volume of Waste Transported per Day by Type of Waste in DKI Jakarta Province (Tons), 2019-2021. https://jakarta.bps.go.id/indicator/152/916/1/volume-sa pah-yang-terangkut-per-hari-menurut-jenis-sampah-di-provinsi-dki-jakarta.html, last accessed on August 3, 2022.

2 Central Bureau of Statistics, DKI Jakarta. Percentage of Waste Composition in DKI Jakarta Provinc 2017-2021. BPS Provinsi DKI Jakarta. Last accessed on August 3, 2022.

3 Cordova, M.R., Nurhati, I.S. Major sources and monthly variations in the release of land-derived marine debris from the Greater Jakarta area, Indonesia. Sci Rep 9, 18730 (2019). https://doi.org/10.1038/s41598-019-55065-2

4 Cordova, M.R., Nurhati, I.S. Major sources and monthly variations in the release of land-derived marine debris from the Greater Jakarta area, Indonesia. Sci Rep 9, 18730 (2019). https://doi.org/10.1038/s41598-019-55065-2

5 LIPI. Increased Plastic Waste from Online Shopping and Delivery During PSBB. http://lipi.go.id/berita/peningkatan-sampah-plastik-dari-belanja-online-dan-delivery-selama-psbb/22037. Last accessed August 3, 2022.

Enviu, Allas, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), and GIDKP share the ambition to reduce plastic pollution and to develop the market for reusable packaging for food delivery in Indonesia, starting in DKI Jakarta City. Enviu is an impact-driven venture-building organization which has worldwide experience in developing reuse solutions, including the development of reusable meal container solutions. In Indonesia, Enviu started with market research and validation of the market for a reuse solution for food delivery: the project Allas. GIZ is working on sustainable development worldwide and is creating collaboration between public and private parties. GIZ is running the Collaborative Action for Single-Use Plastic Prevention in Southeast Asia (CAP SEA) program. As part of CAP SEA project, GIZ is starting a pilot project to prevent single-use plastic and is initiating collaboration for building the market for reuse solutions for food delivery in Indonesia. Meanwhile, GIDKP aims to stimulate the reduction of single-use plastics and is focusing on societal awareness creation to do so.

With this regard, Enviu, Allas, GIZ and GIDKP are working together to achieve their common objective. In August 2022, GIDKP issued a baseline report that described the Allas' subscriber profile, their perceptions and behaviour towards reuse initiatives in general and Allas' service, and also behavioural retention in the future. Following up on this matter, GIDKP has completed monitoring-evaluation (hereinafter, monev) activities to see the progress of the project.

2. OBJECTIVES

General objectives of this monev research is to map the progress of Allas subscribers' profile, their perceptions and behaviour towards reuse initiatives in general and Allas' service, as well as various inputs and opinions for pilot project improvements and behavioural retention in the future.

Specific objectives from this study are to identify:

1. Numbers of SUP that are being reduced (potentially);
2. Numbers of Allas subscribers' participation;
3. Magnitude of Allas subscribers' intention to prefer new scheme; and
4. Ideas for behaviour change program initiative from customer who participated in the pilot project.

3. OUTCOMES

The nature of this monev research is to see the progress from baseline research study[6]. Thus, the outcome of the program is that customers, especially subscribers of Allas' reusable system, have positive perceptions of the pilot project and promote the experience to their peers. Through this research, it is expected that the majority of consumers (Allas subscribers) demand the continuation of the program and expansion to other kitchens/similar business models.

[6] DKI Jakarta City' Reusable Packaging Baseline Research Study on Food Delivery | Knowledge Hub for Green Technologies (greentechknowledgehub.de)

4. METHODOLOGY

Without any significant fundamental changes compared to the baseline survey, in this monev survey, GIDKP used the same method as before. This research targets individuals who have been in contact with Allas as a provider of reusable food containers that can be returned, both respondents who have and those who have not used them. With this fairly specific target, and the situation during the COVID-19 pandemic that did not yet allow face-to-face interviews, and at the same time maintaining a coherent method with baseline research, data was gathered by distributing online questionnaires. The online survey application employed, namely SurveyMonkey, has various facilities that support the data collection process.

In this monev survey, GIDKP collected data twice, which hereinafter can be called midline-monev and endline-monev surveys. The questionnaires can be accessed via:

- https://www.surveymonkey.com/r/X6F2J5D for midline-monev survey, and
- https://www.surveymonkey.com/r/6L95VRP for endline-monev survey.

These surveys use a quantitative approach, meaning that almost all the data obtained is numerical and it will be processed using certain statistical techniques. Nevertheless, open-ended questions are also asked in certain relevant questions to produce qualitative answers that can be analysed later.

The sampling technique applied to the respondents is purposive, which is limited only to the qualifications of the respondents who have been recorded on the Allas contact list, with a population of around 677 people, at least when GIDKP start midline-monev survey. The purposive sampling technique is one type of non-probabilistic sampling techniques and has the characteristics of non-random sampling (where random sampling is not carried out). The researcher determines the sampling by laying down special characteristics that are in accordance with the research objectives so that the study is expected to answer the research problem. This type of sampling was chosen because with the online questionnaire method (the questionnaires can only be filled out after giving consent), it is impossible to carry out random sampling due to the possibility that the return rate cannot be ascertained.

Several steps were taken to obtain data according to the sampling technique described earlier. First, Allas provided a list of subscribers that had been previously filtered according to the initial category of desired respondents, namely only those who lived in the DKI Jakarta City. Allas then contacted those subscribers for the first time to explain the plan and ask prospective respondents for their consent to be contacted by surveyors. After subscribers gave consent to become respondents, the surveyors would contact them to introduce themselves and convey their intentions. After that, they would send the online questionnaire link. Surveyors could also help respondents in filling out the questionnaire if there were any difficulties.

This study used a self-administrated questionnaire scheme. This means that respondents fill out the questionnaire directly themselves without any question-and-answer process as in face-to-face interviews.

To process the existing data, the type of analysis used is descriptive statistical analysis. It should be considered that a portion of the midline-monev survey sample is also part of the endline-monev survey sample, so there may be respondents who filled out and participated in a series of all monev surveys. However, the analysis in this report does not consider the occurrence of these possibilities which may affect the intertemporal measurement results. That is, there is no use of time-series analysis[7], which is a form of statistical analysis that considers movement over time due to changes in the number of respondents and the insufficient number of samples for prerequisite testing. Therefore, the statistical calculations carried out only compare and abstract the average tendency of the data descriptively.

Apart of taking questionnaire to respond to specific objective especially, no. 3 and 4, GIDKP contacted Allas to obtain data and information related to numbers of SUP that are being reduced (potentially) along with numbers of Allas subscribers' participation. From here, data and information were analysed for further recommendation development processes.

5. RESULTS

The period of data collection for midline-monev survey was from September 9 to 29, 2022. There were 50 people who were recorded as filling out the questionnaire, but there were 5 people who had to be excluded because they did not meet the minimum filling requirements. So that the total number of respondents whose data can be processed is 45 people. Meanwhile, data collection for endline-monev survey was carried out from December 3 to 20, 2022 and managed to obtain 65 respondents. However, since there were 10 respondents who did not meet the qualifications, stated that they were not consent, and did not thoroughly complete the questionnaire to the end, the number of respondents whose data could be processed was 55 people.

5.1. Respondent Categories

In the results of these monev surveys, the data show that less than half of the respondents have used Allas. From the two data collection, the highest proportion of user respondents who have used it 2-5 times, namely 20.00% (N=45) and 27.27% (N=55). Although it should be noted that some of the endline-monev respondents did not participate in filling out the midline-monev, it still needs to be acknowledged that the number of first users on the midline-monev has increased the number of users when asked at the endline-monev. This can be seen from the number of first users on the midline-monev of 17.78% (N=45) increasing to 2-5 times on the endline-monev, which is as much as 27.27% (N=55).

[7] Time-series analysis is an ordered sequence of values of a variable at equally spaced time intervals. Time-series analysis accounts for the fact that data points taken over time may have an internal structure (such as autocorrelation, trend, or seasonal variation) that should be accounted for.
Source: National Institute of Standards and Technology, USA. Introduction to Time Series Analysis. https://www.itl.nist.gov/div898/handbook/pmc/section4/pmc4.htm

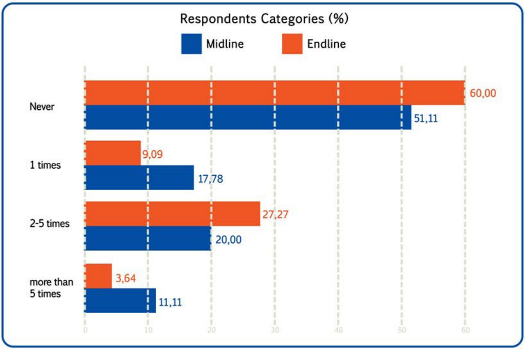


Figure 1. Respondent Categories

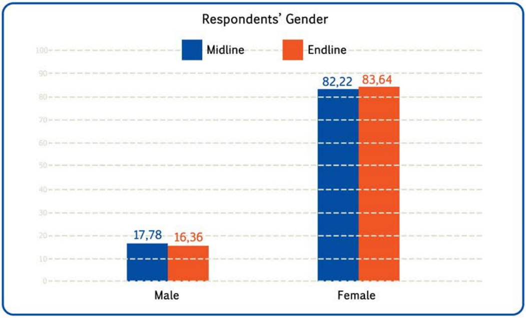
From the midline-monev data can also be seen that there is a mix of respondents, starting from those who have registered, paid, and used. The data show a unique finding that, forexample, 17.78% of respondents (N=45) have used Allas, but have never paid, and there are a small number of respondents, 4.44% (N=45) who have not registered at all but have used. It is assumed that the respondents had experience to use the reusable container when they participated at certain event/activity whose provided meals using Allas food container. These kinds of respondents are not excluded from the dataset, because this study want to get a general view that includes such experiences, and also become Allas' consideration in approach potential customers.

		Registered		Paid		Used	
		Yes	No	Yes	No	Yes	No
Registered	Yes			44,44	20,00	44,44	20,00
	No			0,00	35,56	4,44	31,11
Paid	Yes	44,44	0,00			31,11	13,33
	No	20,22	35,56			17,78	37,78
Used	Yes	44,44	4,44	31,11	17,78		
	No	20,00	31,11	13,33	37,78		

Table 1: Mix of Respondent's Behavior on Allas Acquisition (%)

5.2. Respondent Demographics

Of all respondents, women are still the largest proportion of gender ratio, with a total of 82-83% for both data collection. In addition, the majority of respondents are aged 20-40 years, both at the midline-monev and endline-monev. However, an interesting finding about the endline-monev is that the portion of respondents aged over 40 years has increased significantly to 23.64% (N=55) compared to the midline-monev which was only 8.89% (N=45). From this, it can be assumed that reuse initiatives, such as Allas, have also received more attention by X Generation.



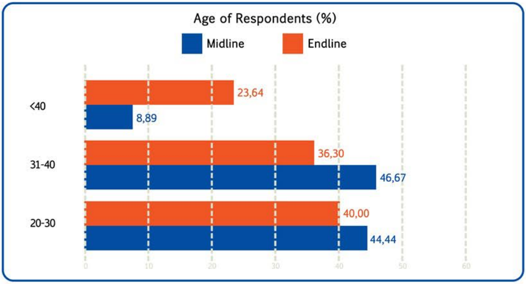


Figure 2. Respondents' Gender and Age

Many respondents seem to have a higher educational background, of which more than 90% have at least completed a bachelor's level. Even 28.89% (N=45) of midline-monev respondents and 21.82% (N=55) of endline-monev respondents had completed master's degree education. Unlike the baseline survey where none of the respondents had an education level lower than diploma level, in these monitoring and evaluation surveys there were 2.22% (N=45) and 1.82% (N=55) of respondents who were high school graduates. This shows that Allas product has succeeded in touching a wider consumer segment.

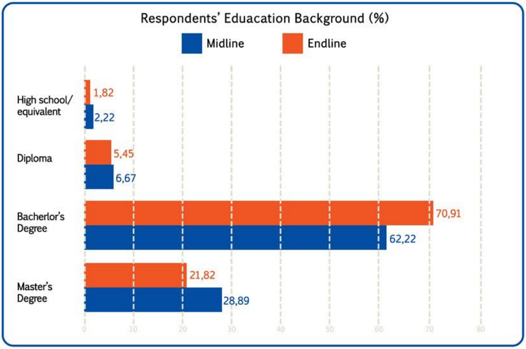


Figure 3. Respondents' Education

Similar to the result of the previous baseline survey, the majority of respondents worked as private employees, with a total of 37.78% (N=45) for the midline-monev and 38.18% (N=55) for the endline-monev respondents. It is followed by the second largest group of respondents were housewives with a total of 17.78% (N=45) and 16.36% (N=55).

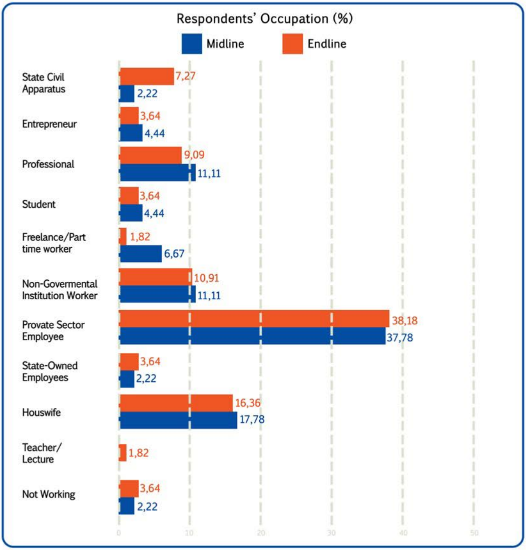


Figure 4. Respondents' Occupation

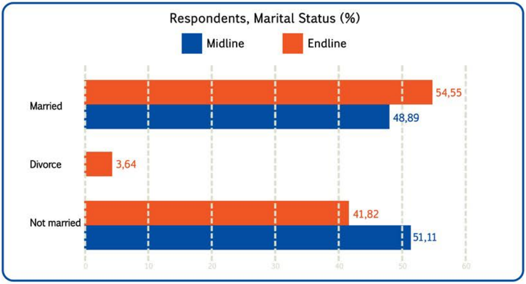


Figure 5. Respondents' Marital Status

The ratio of married and unmarried respondents showed a fairly balanced proportion, where 48.89% (N=45) of midline-monev respondents and 54.55% (N=55) of endline-monev respondents were married. Only 3.64% (N=45) of endline-monev respondents said they were divorced.

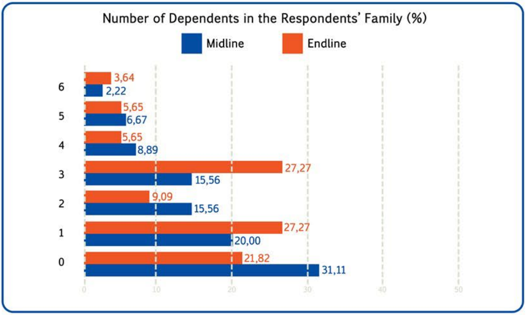


Figure 6. Number of Dependents in the Respondents' Family

The respondents are also asked about the number of family members living with them in their respective residences. There is no similar pattern that occurs in the two phases of data collection. For midline-monev respondents, most of them said they lived alone, namely 31.11% (N=45). Whereas in the endline-monev survey, most respondents, as much as 27.27% (N = 55) for the number of family members of one person and three people respectively.

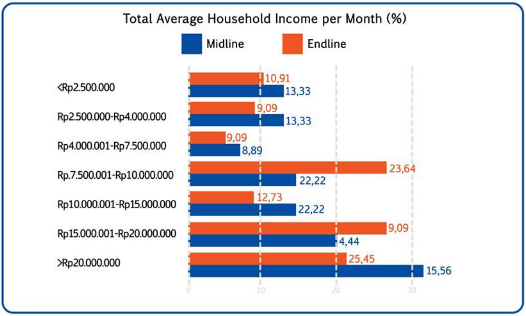


Figure 7. Total Average Household Income per Month

It was seen that the majority of midline-monev respondents have monthly income in the range of IDR7,500,001 - IDR10,000,000 and IDR10,000,001 - IDR15,000,000, respectively, at 22.22% (N=45). As for the endline-monev respondents, the respondents who had just taken part in filling out the second monitoring evaluation were seen to have a high level of income, with a total monthly income of more than IDR20,000,000 as much as 25.45% (N=55). Meanwhile, respondents with the same income in the midline-monev survey were only 15.56% (N=45). By referring to income group category[8], it can say that most respondents are categorized as middle to high income group.

5.3. Online Food Order Behaviour

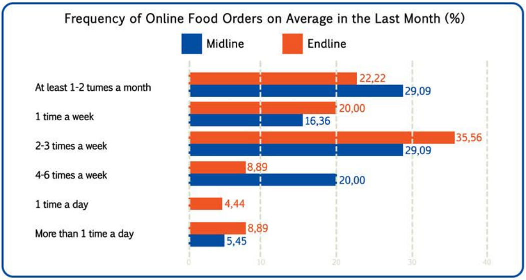


Figure 8. Frequency of Online Food Orders on Average in the Last Month

Most of the respondents stated that the average number of online food purchases in the last month was 2-3 times per week. This figure is shown by midline-monev respondents who said so, as much as 35.56% (N=45) and 29.09% (N=55) of endline-monev respondents. Then followed by respondents who stated that they buy food online 1-2 times a month, respectively by 22.22% (N=45) and 29.09% (N=55). This fact indicates that respondents do not buy food online too often to cover their daily needs.

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[7] Berita - PENGHASILAN KELAS MENENGAH NAIK = POTENSI PAJAK? (kemenkeu.go.id)

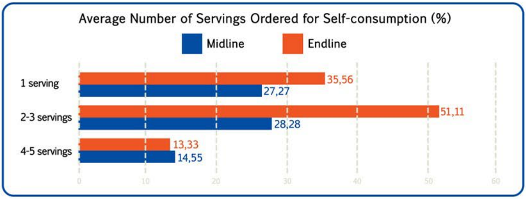

Figure 9. Average Number of Servings Ordered for Self-consumption

From this frequency of purchases, respondents were then asked again about the average number of servings usually ordered per online food purchasing. Both groups of respondents stated that the majority ordered 2-3 servings, as of 51.11% (N=45) and 58.18% (N=55), and were followed by 1 serving, each 35.56% (N=45) and 27.27% (N=55).

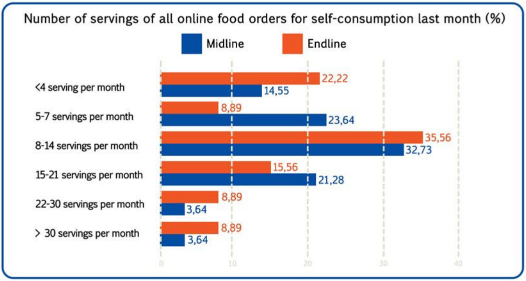

Figure 10. Number of servings of all online food orders for self-consumption last month

The respondents were asked to estimate the total servings of food ordered in one month, as a form of confirmation to the previous question regarding the estimated number of food orders online. Most respondents, both midline-monev and endline-monev, order a total of 8-14 servings a month, namely at 35.56% (N=45) and 32.73% (N=55). The number of subsequent orders was followed by 22.22% (N=45) of respondents with less than 4 servings per month, and 23.64% (N=55) of respondents with 5-7 servings per month.

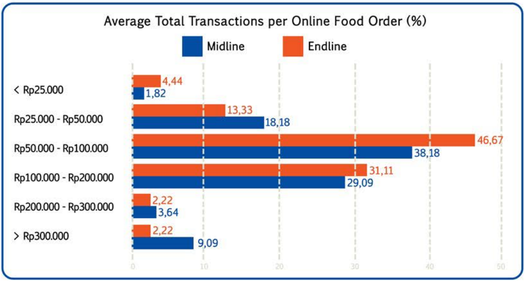

Figure 11. Average Total Transactions per Online Food Order

The majority of respondents admitted that they spent IDR50,000 - <IDR100,000 in one online food order (46.67%, N=45 and 38.18%, N=55). Then followed by IDR100,000 - < IDR200,000 (31.11%, N=45 and 29.09%, N=55).

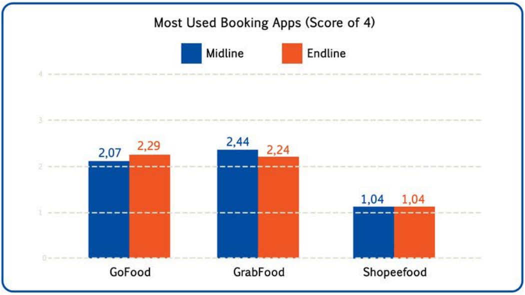

Figure 12. Most Used Booking Apps

From the two data collections on the midline-monev and endline-monev, GoFood and GrabFood appear to occupy a dominant position as the applications most frequently used in ordering food. Although there are slight differences from the most frequent applications in each data collection period. GrabFood has the highest score of 2.44 out of 4 in the midline-monev period, while GoFood has the highest score of 2.29 out of 4 in the endline-monev period. Shopeefood is at the last position, compared to the two applications previously mentioned, without an increase in score.

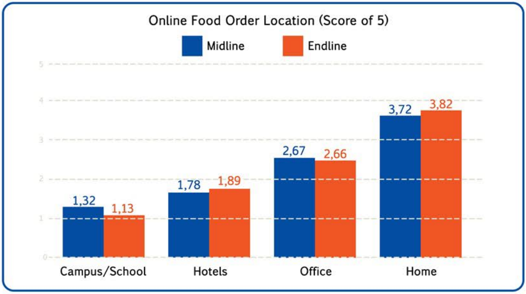

Figure 13. Online Food Order Location

In line with the previous baseline results, the majority of respondents still ordered food via online from home, with a score of 3.72 out of 5 in the midline-monev period and 3.82 out of 5 in the endline-monev period. This location is then followed by offices and hotels, with once respectively 2.67 and 1.78 in the midline-monev period, and 2.66 and 1.89 in the endline-monev period. Campuses/schools are seen as places that are rarely the location for orders.

5.4. Reuse Behaviour

In the questionnaire, then the respondents were asked about the reuse behaviour they had engaged in their daily life, in the last few months. Regarding reusable products, the two groups of respondents at different periods showed the same pattern that they "always" used tumblers and reusable shopping bags, with a percentage range of 65% -80%. All the more, when added to the frequency of "often" for the two periods, the percentage value for the use of these two reuse products, up to about 90%. Domination of significant frequency like this does not seem to be the same for other products, such as reusable straws, cutleries, and food containers. The next pattern that was consistent for the midline-monev and endline-monev periods occurred in reusable cutlery products, where the two groups of respondents who said they "always" used it reached 37.78% (N=45) and 38.18% (N=55). Even if we add the respondents who answered "often", it can reach around 60% in both periods. Whereas for the reusable food container, if the two answers "always" and "often" are combined, it is around 50% of the respondents. For reusable straws, it hits an even lower number, around 40%, in both data collection periods.

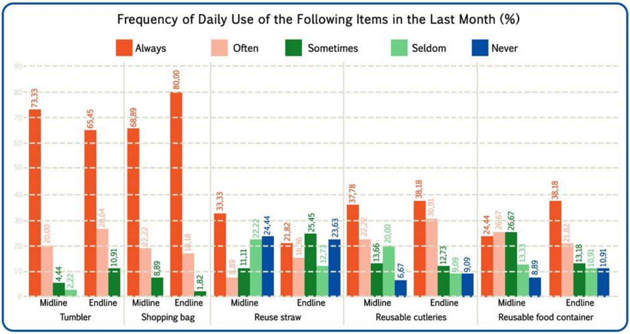

Figure 14. Frequency of Daily Use of the Following Items in the Last Month

Respondents seemed quite confident to agree that the reason for using reusable products was because they can help the environment. This is shown from the respondents who stated "strongly agree" on this reason, as many as 86.67% (N=45) of midline-monev respondents and 74.55% (N=55) of endline-monev respondents. With a much lower number, this reason was followed by more comfortable reason (48.89%, N=45 and 38.18%, N=55), as well as saving money (28.89%, N=45 and 29, 09%, N=55).

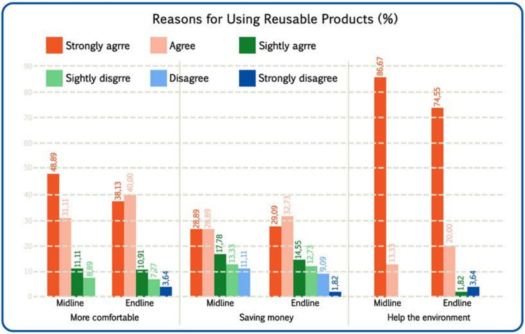

Figure 15. Reasons for Using Reusable Products

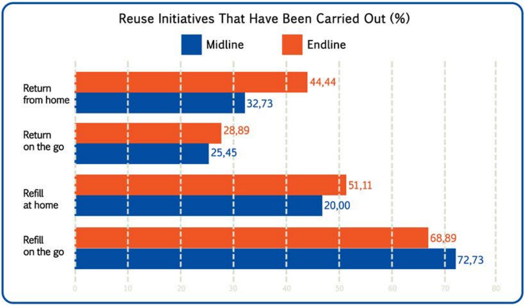

Figure 16. Reuse Initiatives That Have Been Carried Out

If the question is expanded to larger initiatives, 68.89% (N=45) and 72.27% (N=55) respondents claimed to have refilled on the go. Together with refill at home (with a total of 51.11%, N=45 and 47.27%, N=55), the two initiatives emphasized refill behaviour, showing that people are more familiar with this kind of behaviour, compared to the category return behaviour where the number of perpetrators is still smaller. Respondents admitted that they had taken the initiative to return from home as much as 44.44% (N=45) and 32.73% (N=55), and lastly followed by return on the go, as many as 28.89% (N=45) and 25.45% (N=55).[9]

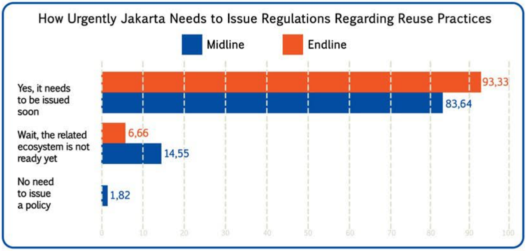

Figure 17. How Urgently Jakarta Needs to Issue Regulations Regarding Reuse Practices

[9] For further explanation about the model, please read Ellen MacArthur Foundation. Reuse—Rethinking Packaging. (2019). https://ellenmacarthurfoundation.org/reuse-rethinking-packaging

With various behaviours and initiatives that already exist, most respondents (93.33%, N=45, and 83.64%, N=55) agree that it is time for Jakarta to issue a policy that encourages the practice of reusing food packaging/containers. However, there are still 6.67% (N=45) of midline-monev respondents and 14.55% (N=55) of endline-monev respondents who think that the policy does not need to be issued immediately because the re-use ecosystem in Jakarta is not ready. Related ecosystem can be defined as a reuse ecosystem that are consisting of the cooperation of all the subjects involved, such as consumers, merchants/restaurants, reusable container service providers, food delivery service providers, government, and other related institutions, such as BPOM. Thus, the respondent's perception of how prepared the subjects involved were in the ecosystem can be seen in the figure below.

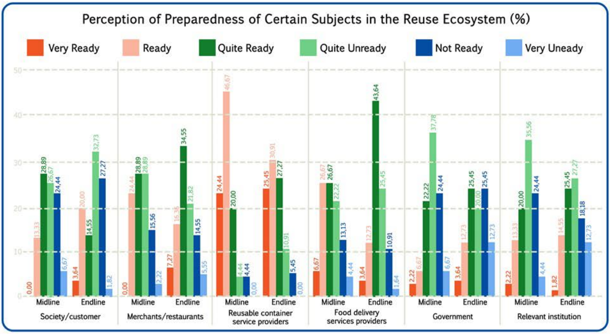

Figure 18. Perception of Preparedness of Certain Subjects in the Reuse Ecosystem

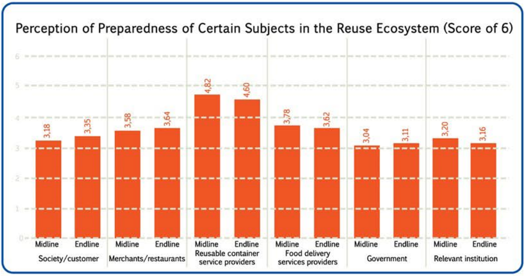

Figure 19. Perception of Preparedness of Certain Subjects in the Reuse Ecosystem

If calculating the average value for each subject, respondents perceived reusable containers /packaging service providers as most ready (e.g., Allas, etc.), with a value of 4.82 and 4.60 out of a scale of 6, for each midline-monev and endline-monev survey. The second highest average score was given to food delivery service providers (e.g., Gojek, Grabfood, etc.) with a score of 3.78 and 3.62 for each period; merchants/restaurants followed with a score of 3.58 and 3.64; society/consumers had a score of 3.18 and 3.35; relevant institutions (e.g., BPOM, etc.) a score of 3.20 and 3.16; and finally, the government with a score of 3.04 and 3.11.

5.5. Perception of Allas Users

All respondents who claimed to have registered Allas (29 people of midline-monev and 30 people of endline-monev), were then asked about their various perceptions and opinions about this product. They all almost entirely agreed (93.10%, N=29 and 100,00%, N=30) that the use of the service provided by Allas was useful.

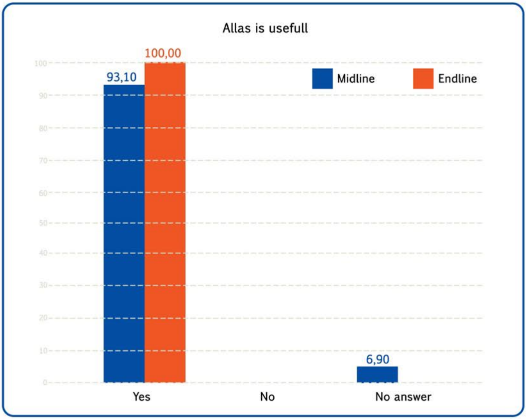

Figure 20. Perception of Allas Usefulness

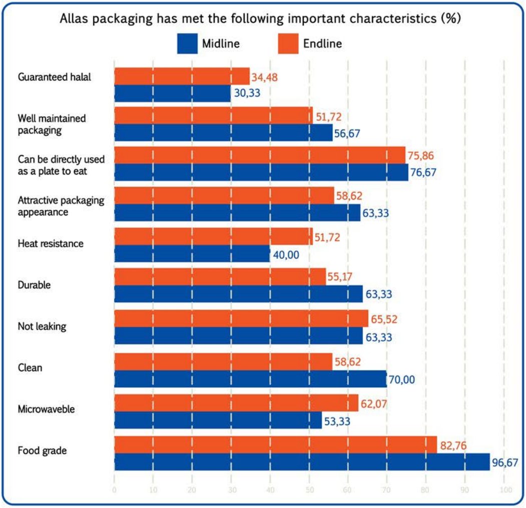

Figure 21. Allas Packaging Characteristics

From all respondents who stated that they had registered and said that Allas was useful, Allas packaging was also rated positively, with the three highest-rated characteristics according to each respondent' period are: that it is food grade (82.76%, N=29 and 96.67%, N=30), can be directly used as a place to eat (75.86%, N=29, and 76.67%, N=30). In addition, midline-monev respondents also added that Allas was not leaking (65.52%, N=29), and endline-monev respondents added that Allas was considered clean (70.00%, N=30).

5.6. Intention to Use Allas

All respondents who claimed to have registered Allas (29 people of midline-monev and 30 people of endline-monev), were then asked about their various perceptions and opinions about this product. They all almost entirely agreed (93.10%, N=29 and 100,00%, N=30) that the use of the service provided by Allas was useful.

To measure the intention to use Allas in the future, surveyors asked three questions, as follows:

- First, "I will return to using Allas regularly in the future"
- Second "I will use Allas more often in the future", and
- Third "I will promote Allas to those who are closest to me".

The last question received the most "Strongly Agree" and "Agree" answer choices, which were 75,86% (N=29) for midline-monev and 80,00% (N=30) for endline-monev compared to other items that received the "Strongly Agree" and "Agree" answers. However, if each item from this construct is examined, this analysis will find that the item "I will promote Allas to those who are closest to me" has the highest average score among the others. It is assumed that the intention to promote Allas in the future is valued more highly—or to do so more often—than the intention to use it by the respondents themselves.

If each possible answer is given a score (Strongly agree = 6, Agree = 5, Slightly Agree = 4, Slightly disagree = 3, Disagree = 2, and Strongly Disagree = 1) and the average calculated, the value of the intention construct score for existing users (both first-time and repeating/ regular users) were 5.12 and 4.18 out of a scale of 6, respectively for midline-monev and endline-monev survey.

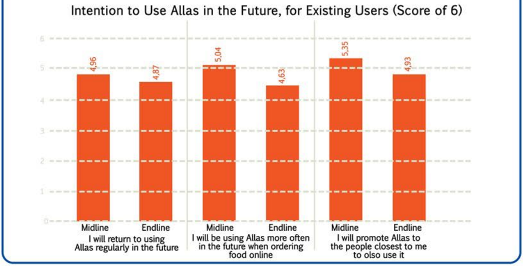

Figure 22. Intention to Use Allas in the Future, for Existing Users

5.7. Aspirations for Expansion of Initiatives

All respondents who claimed, at least, have registered Allas indicated the need for expansion in the number of merchants/restaurants that they felt was lacking (93.10%, N=29 for midline-monev respondents and 96.67%, N=30 for endline-monev respondents).

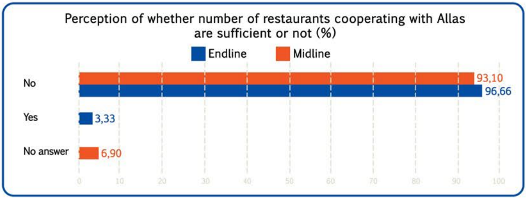

Figure 23. Respondents' Aspirations on Allas Expansion

The proposed restaurant names, which have been grouped by category similarity, from midline-monev and endline-monev inputs, are as follows (number in brackets indicate the number of people who recommended it):

- **Food/Restaurant:**
  Ayam Berkah (1), Ayam Keprabon (2), Bakmi 3 Marga (1), Bakmi BBT (1), Bakmi GM (5), Boga Group (1), Coco Ichibanya Curry (1), Demie Bakmi (2), Gudeg Jogja Bu Hani (1), Restoran IKEA (1), Imperial Kitchen (1), Janji Kenyang (1), Jittlada Thai Cuisine (1), Loka (1), Makciak (1), Mangkokku (3), Martabak Mesir Kubang (1), Marugame Udon (1), Rumah Makan Pagi Sore (2), Rumah Makan Sederhana (4), Rush Hour (1), Sedjuk Bakmie & Kopi (2), Solaria (2), Soto Betawi Bang Budi (1), Soto Surabaya Cak Kris (1), Sushi AEON Mall (1), Sushi Hiro (1), Sushi Tei (2), Ta Wan (1), Warung Bu Vesti (1), Yoshinoya (2), dan Zenbu (1)

- **Fast food:**
  Ask for Patty (1), Burger King (3), Domino's Pizza (1), HokBen (4), KFC (7), McDonald (4), Pizza Hut (4)

- **Healthy Foods:**
  Burgreens (3), Grains of Glory (1), Hijoo Salad Bar (1), SaladStop! (5), Sinless Break (1), dan Yellowfit (1)

- **Beverages:**
  Bobabobby (1), Chatime (1), Feel Matcha (1), Flash Coffee (1), Fore Coffee (1), Janji Jiwa (1), KOI The (1), Kopi Kenangan (2), Point Coffee (1), Sour Sally (1), Starbucks (1), Tuku (3), dan Vows Coffee (1)

- **Snacks:**
  Beau Bakery (2), Dear Butter (1), Harvest (1), J.Co (1), dan Levant Boulangerie et Pâtisserie (1)

- **Cloud Kitchen:**
  Hangry (1)

In addition, Allas user respondents were asked about the level of acceptance of the new proposed type of Allas service which being developed, in responding to specific objective no.3. Apart from food delivery services through an online application, Allas has expanded their business coverage into several schemes, namely:

- Events, where individuals can borrow Allas containers as food containers for activities in large quantities;

- Catering, where catering customers can use Allas reusable containers on a regular basis; and

- Borrowing of drinking cups, where apart from food containers, Allas also has drinking cups that can also be used by consumers.

Of the three schemes for using the Allas container, the respondents then were asked whether they had tried using the service, and if not, whether the respondent was interested in using it in the future or not.

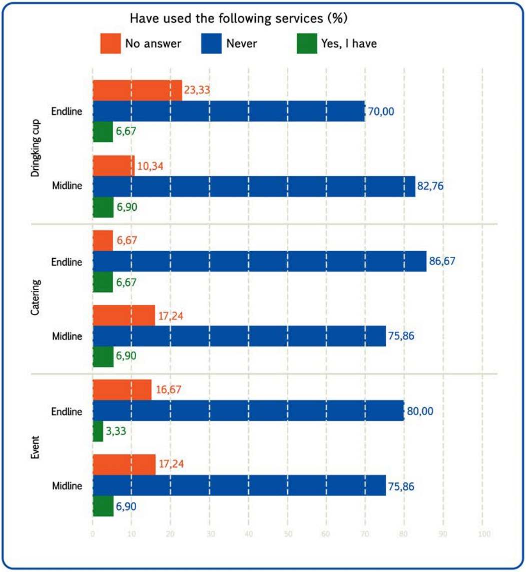

Figure 24. Respondents' Experience on Allas' New Services

As the services idea and currently under development, it seems that the three existing services have never been used by most of the respondents. But there are already a few respondents who have used it, such as events (17.24%, N=29 and 16.67%, N=30), catering (17.24%, N=29 and 6.67%, N=30), and drinking cups (10.34%, N=29 and 23.33%, N=30).

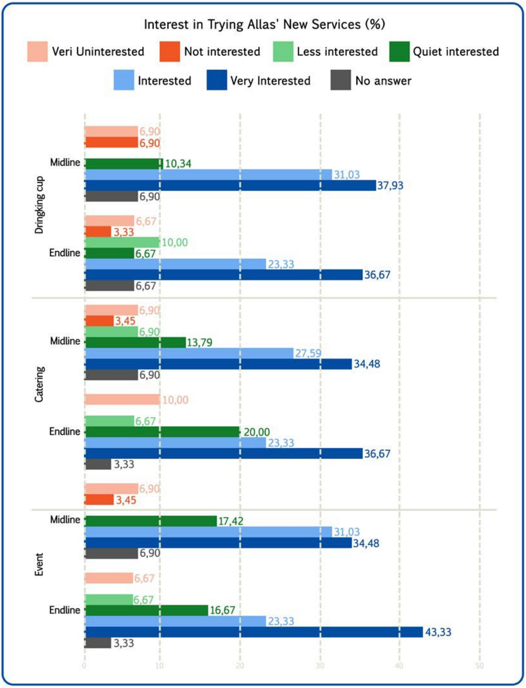

Figure 25. Respondents' Interest in Trying Allas' New Services

Respondents also seemed to have high interest in trying the new Allas service. If the answers "Very interested" and "Interested" are combined, then for all types of services and data collection periods, each shows a figure of more than 60%. However, when viewed in more detail, using the same calculation method, the highest interest was shown by respondents for drinking cup products, with a total of 68.96% (N=29) for midline-monev respondents and 66.66% (N=30) for endline-monev respondents. This number is followed by event services with 65.51% (N=29) of midline-monev respondents and 66.66% (N=30) of endline-monev respondents, then lastly catering with 62.07% (N=29) of midline-monev respondents and 60.00 % (N=30) endline-monev respondents.

As additional data, we also confirm the total usage of Allas containers and tumblers for two types of services, namely Delivery, as an existing regular program, and Events, which have started since early 2022. The data shows that indeed services for Events have high usage potential within one period of use. This is shown for example., on average, throughout 2022 the number of containers and tumblers used for Events is higher than the Delivery service because in one event a large number of containers and tumblers can be used at once. This is certainly positive if judged from the volume level for one time. However, the sustainability of this program has yet to be tested because it was proven that at the end of the year, the number of users of this service had decreased significantly because the number of events and tenants was not as many as the previous month.

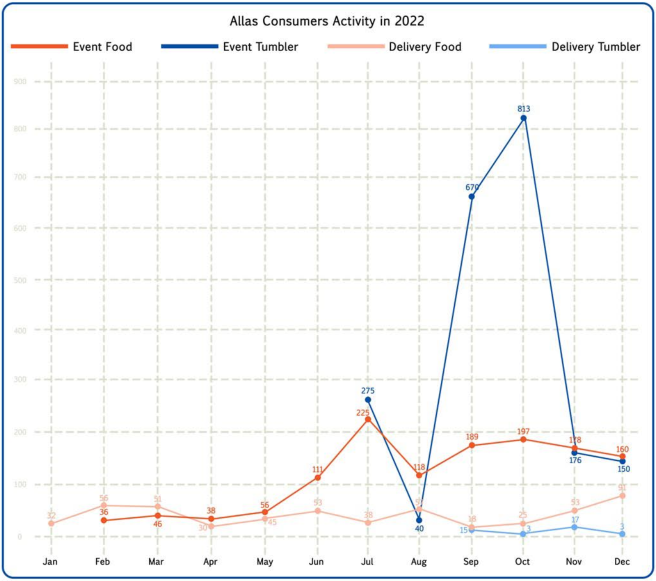

Figure 26. Allas Consumers Activity in 2022

5.8. Numbers of SUP that are being reduced (potentially)

To measure the numbers of SUP that are being reduced (potentially), GIDKP coordinates with Allas to obtain data on consumer participation in the use of Allas products. The first data obtained is the numbers of Allas' subscribers participation. In accordance with the categorization that has been started since the baseline survey, this study categories consumer participation into three groups with different behaviors, namely: consumers who register, consumers who have paid, and consumers who have used. From the data obtained, it appears that of all consumers who register themselves, only some of them directly pay the fee for using Allas. This is proven by seeing that the number of Allas registrants in September increased compared to May but the number of paying consumers actually decreased. Meanwhile, for the behavior of using Allas, it cannot be directly correlated with the other two behaviors, because Allas users can be people who have registered or paid Allas fees from previous months. It is proven that the number of users in September was even higher than in May.

Furthermore, if exploring the three of Allas' consumer activities when compared to the previous data collection, the number of activities in December touched a much smaller amount. This does not mean that there has been a significant decline in interest in using Allas products over time in 2022. Thus, highlighting at the beginning of this report that the analysis of the three data collections carried out could not consider time series analysis, due to several factors that have mentioned, including repetition of behavior that is not absolutely repeated in the following month. In more detail, the number of each group can be seen in the following graph.

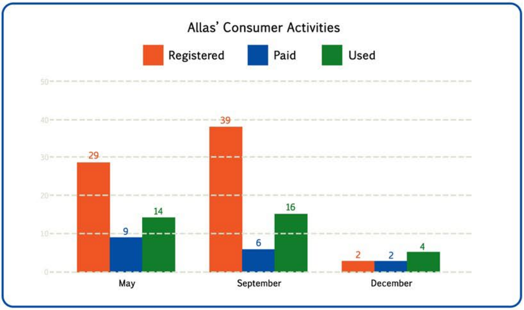

Figure 27. Allas Customer Activities at the Survey Periods

From these data, the number of SUPs that are being reduced (potentially) is obtained from data on the number of containers and cups borrowed during the data collection period, such as the following data:

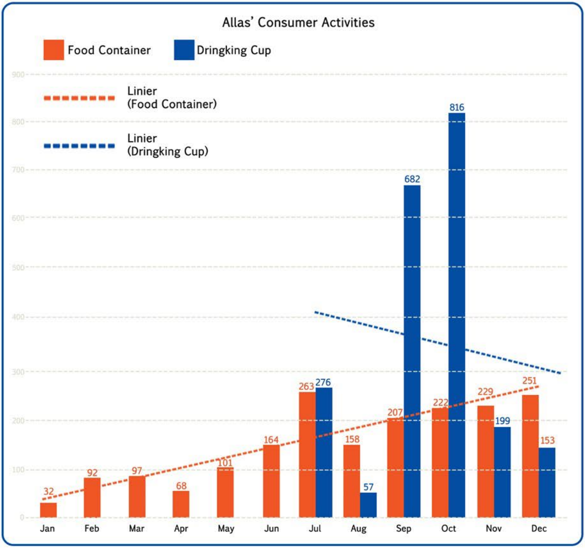

Figure 27. Allas Customer Activities at the Survey Periods

From the data presented above, it can be seen in general that the number of Allas food containers used shows an amount that has started to be constant since the middle of the year. It is found that there is an increasing trend in the use of containers during 2022. As for the drinking cups itself, as an Allas innovation, its use has only started since July 2022. Indicating that there had been a spike in usage in September and October due to the influence of event services. However, the trend of its use is still not as good as food container products. Overall, the number of uses of Allas containers during 2022 is 1,884 containers, which roughly means that the Allas initiative has been able to reduce 1,884 single-use plastic containers from ordering food online.

5.4. Ideas for behaviour change program initiative from customer who participated in the pilot project

In this study, respondents were also asked to submit input or ideas that Allas could provide to develop existing initiatives. From all the respondents who conveyed their ideas, apart from the respondents who submitted input for issuing regulations from the Government and the need to form a special institution that oversees and carries out reuse initiatives, some of the findings as input from respondents can be submitted as follows:

1. Education

Respondents thought that education and outreach still had to be carried out. However, the interesting thing is that apart from educating the public in general, the respondents also suggested educating stalls and catering services, which they feel also have a role in an ecosystem that is more familiar to most people.

2. Increasing the capacity and role of actors

Respondents suggested that merchant and logistic readiness for the use of reusable containers must be increased. This readiness is demonstrated by the number of merchants cooperating in the adoption of reusable containers. Respondents also hoped that the process of returning containers could be carried out more easily. This can be done by adding drop point locations for containers that are easy to reach, such as the nearest station, bus stop, shop, or mini market. Another suggestion that was also put forward was to develop a container return system in collaboration with an online delivery application. In addition, there were also respondents who suggested that a service should adopt a common and inexpensive food container model, so that access to reusable containers would be easier.

3. Improvement of service facilities in general

In this category, respondents suggested to provide input in order to increase bulkstore branches to facilitate public transactions. Respondents also suggested increasing mineral water refill stations apart from food containers. The idea of increasing the range of services to a wider community was also proposed to increase the benefits of this reuse initiative. Respondents also added to adopt the use of reusable food containers in food courts and restaurants.

4. Customer-specific aspects: culture and incentive formation

From the various existing inputs, one special category can also be grouped regarding customers as users of reusable containers. The first thing was about the provision of incentives to the community, for example a price reduction (or discount) when using reusable products. The formation of a culture of eating on the spot can also be applied, especially in locations such as food courts and restaurants.

6. DISCUSSION AND CONCLUSION

Respondents' profile. Same with previous baseline survey result, most respondents were women, which means that more women began to subscribe to and even join the Allas program. This shows that women seem to have a higher environmental concern than men. This is also reinforced by various previous studies, such as Mohai (1997), or the latest study by Dhenge (2022). Desrochers, et al (2019), provide an explanation of why women are more concerned about being conscientious. They have a higher level of conscientiousness than men, so that is why women are more likely to support environmental protection, are less supportive of environmental exploitation, and are more likely to participate in pro-environmental behaviour. Theoretically, Sakellari and Skanavis (2013) also offer ecofeminism as an explanation that underlies women's concern for pro-environmental actions.

Respondents in general are also concentrated as the millennial generation with the age range of 20-40 years. This survey also noted that there was an increase in the number of respondents aged over 40 years (X generation). This also shows an increase in awareness of Allas products in a wider age range. Respondents also considered as the active working age, which more than one third respondents of both data collecting periods, working as private employees. Surveys finding also shows that the respondents certainly have the financial capacity to adapt to using reusable packaging containers. More than 40% of midline-monev respondents claimed to have monthly income of IDR7,500,001 - IDR15,000,000. Furthermore, endline-monev respondents appear to have high levels of income, with a total monthly income of more than IDR20,000,000 for more than a quarter of the respondents. Respondents in this context are people who have a higher socioeconomic level or in other words belong to the (upper) middle-income group.

Respondents' behaviour. Respondents' behaviour in ordering food online did not really show a dominant pattern in one particular choice. However, approximately a third of respondents stated that they ordered 2-3 times per week. This number can also be interpreted as one seventh during the entire week, or 8-12 times a month. This answer is consistent with the question of total monthly servings for the midline-monev and endline-monev, of 8-14 servings per month, in at least a third of respondents. In addition, respondents also claimed to be able to spend around IDR50,000 - <IDR100,000 in one online food order. This number can certainly be an important baseline for determining sales targets from the overall behaviour of respondents. This is because, from the total food consumption of the respondents, it is necessary to analyse the potential number of portion orders that Allas can acquire. In the long term, this can be used as a projected step in the development of reusable container initiatives such as Allas.

In addition, in ordering food online, respondents stated that they most often order via the Gofood and GrabFood applications, and the location for ordering food online is most often from home, followed by offices, hotels, and schools/campuses. These findings are also consistent with the baseline findings. However, while most booking locations occur from home, Allas can also still take advantage of the unique campaigns distributed in offices and hotels. This is considering the pattern of life in offices and hotels, in fact they do not collide with each other, where hotels are usually occupied on weekends, and offices on the rest of the weekdays. Through the right campaign and promotion strategy, it is not impossible that these three locations will occupy the same portion of the total usage of Allas products.

Moreover, if the question was expanded to larger initiatives, majority of respondents claimed that they are more familiar with refill behaviour, compared to the category return behaviour where the number of perpetrators is still smaller.

Respondents' perception about the pilot project. Respondents gave a positive impression of Allas packaging containers and considered this initiative to be useful. In particular, respondents also stated that the characteristics of Allas containers were in accordance with the most important characteristics that reusable containers should comply with food grade standards, can be directly used as a place to eat, do not leak dan are considered clean. Respondents who used Allas said that they had a high intention to use the Allas containers again in the future, with a score of 5.12 and 4.18 out of a scale of 6, respectively for midline-monev and endline-monev survey. Another thing that is also interesting is that from this data it was also found that the intention to promote Allas in the future to their colleagues is valued more highly. This once again illustrates that the reuse program like that carried out by Allas was perceived very positively by the respondents.

Respondents' demand for expansion or continuation. Respondents also expressed the need for expansion, as both the numbers of merchants/restaurants were deemed insufficient. Respondents have submitted various brand names that they prefer to join in working with Allas, with categories, at least, starting from food/restaurants, fast foods, healthy foods, beverages, snacks, and what is different in this monitoring-evaluation survey is that respondents also include the type of cloud kitchen. This data also shows that respondents demand an expansion of Allas services in order to make their use more widespread. Continuing the trend from the baseline period, respondents indicated that the biggest motivation for using reusable containers was for environmental reasons, in the terms to beating single-use plastic pollution rather than economic factors and personal convenience.

Respondent's feedback on Allas new scheme. In this monitoring evaluation survey, an exercise was also carried out to see which new business models might be developed in the future. Apart from food delivery services through an online application, Allas has provided new several schemes, namely: events, catering, and drinking cups. Overall, it can be concluded that respondents seemed to have high interest in trying the new Allas service, especially the highest interest was drinking cup products.

Respondent Opinion for Behaviour Change Program Initiative. Most respondents agree that it is time for Jakarta to issue a policy that encourages the practice of reusing food packaging/containers. Among the various actors involved, reusable containers/packaging service providers are perceived as the most prepared, followed by food delivery service providers. Relevant institutions, e.g., BPOM and the government are perceived as the most unprepared actors compared to the others. This is strongly suspected because there are no official regulations and socialization that describe the Government's attitude towards this kind of reuse initiative.

In general, as stated above, this program's target is that Allas customers develop a positive perception of this project. From the findings above, this research can conclude that respondents consider Allas to be a very useful initiative, especially regarding its impact on the environment. In addition, respondents also stated that the characteristics of Allas products had met their expectations.

Considering all these strengths, all respondents, from the baseline to the midline-monev and endline-monev studies, expressed their strong desire to use Allas in the future. This study also showed that respondents want the expansion of Allas, either in the number of restaurants that use Allas services, as well as business models that can be offered to consumers. This good news, once again, continues the positive trend that has been shown since the previous baseline study.

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