

A hand is shown holding a clear plastic bottle, tilted as if to drop it into a blue recycling bin. The background is blurred, showing other recycling bins and people in blue uniforms. The text is overlaid on a semi-transparent grey box.

A BARRIER ANALYSIS – BARRIERS TO RECYCLING BY COMMERCIAL WASTE GENERATORS IN JORDAN RECYCLING IN JORDAN ACTIVITY

TOWARD A MORE
COMPETITIVE RECYCLING
SECTOR IN AMMAN

— BACKGROUND & METHODOLOGY

WASTE PROFILE AMONG COMMERCIAL WASTE GENERATORS

BARRIERS TO COMMERCIAL WASTE RECYCLING – CAPABILITIES

BARRIERS TO COMMERCIAL WASTE RECYCLING – OPPORTUNITIES

BARRIERS TO COMMERCIAL WASTE RECYCLING – MOTIVATION

RECOMMENDATIONS

— **BACKGROUND & METHODOLOGY**

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BACKGROUND

Currently, most commercial waste generators use municipal waste collection services that take their waste straight to landfills. A small number of these waste generators allow informal waste pickers access (i.e. sorting and extraction of recyclables) to their waste prior to disposal. An even smaller number of commercial waste generators contract and use formal private sector recycling services.

If the Jordan Recycling Activity (JRA) is to meet its target of diverting up to 115t. per day of landfill waste into recycling markets, it is going to have to change current practices of commercial waste generators with respect to:

- Improved and increased access to waste pickers by commercial waste generators;
- Increased contracting of private sector recycling service providers; and /or
- Establishment of internal waste management and recycling operations (i.e. separation, sorting and sale).

Therefore, to help elaborate and inform any/all such options, the JRA conducted this study, which examines current practices and motivations of commercial waste generators in four sectors (restaurants, hypermarkets, hotels and malls) in Amman.

ANALYTICAL FRAMEWORK: COM-B MODEL

This research has been guided by a social and behavioral change (SBC) approach, which is informed by behavioral models and insights from sociology, psychology, and behavioral science research.

Social expectations and norms play a large role in determining an individual's behavior, as many negative behaviors are derived from and reinforced through social expectations. By using an SBC approach to policy-making and focusing on changing behaviors, attitudes and beliefs, governments can create long lasting positive change for their citizens.

Specifically, the COM-B model was used as the analytical framework for this research, helping to unpack and explore the drivers and barriers to recycling by commercial waste generators. This model recognises that behaviors are multidimensional, involving three different components. The COM-B model recognizes that **capability** (both psychological and physical), **motivation** (conscious and unconscious), and **opportunity** (physical and social) affect an individual's, or in this case a company's, adoption of a **behavior**.

Further explanation of this model is found on the next page.

ANALYTICAL FRAMEWORK: COM-B MODEL

Motivation is viewed as an expression of individual's desire to change or adopt a new behavior.

Capability relies on the individual's capacity to change or adopt a behavior, such as having the necessary physical ability, knowledge and skills.

Opportunity captures external factors that enable or motivate behavior, including changes to the environment and social opportunities.

Therefore, COM-B takes into account both the individual determinants behind a behavior, as well as the sociological and environmental ones.

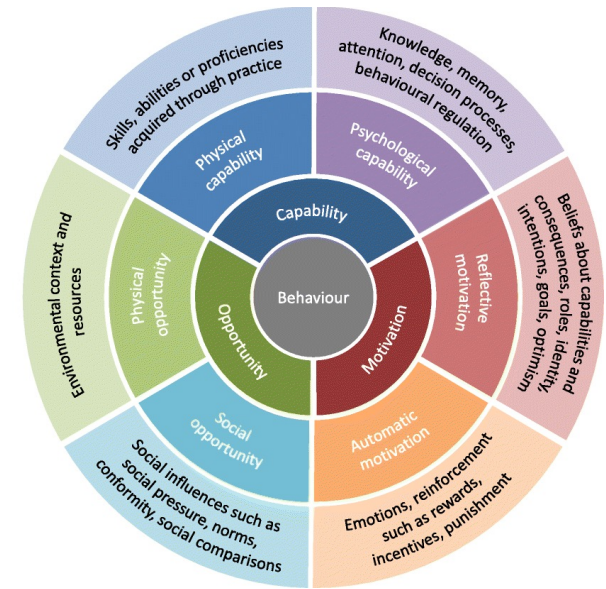
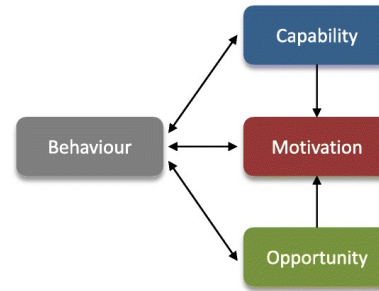


Figure: Full definition breakdown of motivations, capabilities and opportunities

RESEARCH QUESTIONS

The research questions that guided this assessment are split into (1) context questions and (2) behavioral determinant questions. The behavioral determinant questions have been categorized in accordance with the COM-B analytical framework. These are detailed below:

Context Research Question

What kind of, how much, and how frequently waste is generated by different commercial units?

What alternatives to private sector recycling services are being used by commercial waste generators?

Table 1: Context Research Questions

Research Question	Behavioral Driver (as per COM-B)
What kind of waste disposal mechanisms, or recycling services, do commercial waste generators engage in, if any?	Opportunity
What are the key factors that drive or hinder commercial waste generators from adopting recycling (and waste separation) behaviors (recyclers vs non-recyclers)?	Capability, Opportunity, Motivation
What is the experience of commercial waste generators when seeking to access recycling services, from both formal and informal service providers?	Opportunity

Table 2: Behavioral Determinant Research Questions

RESEARCH METHODOLOGY

MAGENTA conducted rapid qualitative research to assess the behavioral determinants (i.e. drivers and barriers) of recycling by commercial waste generators in four target sectors.

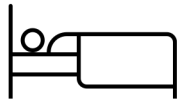
Qualitative data was obtained through KIIs, FGDs and dyads.

PHONE-BASED KEY
INFORMANT
INTERVIEWS (KII)

ONLINE FOCUS
GROUP
DISCUSSIONS (FGDS)

DYADS

These interviews were conducted in Amman, Jordan with the managers or staff members responsible for waste disposal in the following sectors:



HOTELS



**RESTAURANTS &
CAFES**



MALLS



HYPERMARKETS

Semi-structured discussion guides were developed to assess behavioral determinants, intentions, barriers and current knowledge in relation to solid waste management and recycling, as well as to better understand the experiences of the commercial waste generators with regards to provision of recycling services, both formal and informal.

SAMPLE BREAKDOWN

KEY INFORMANT INTERVIEWS

32

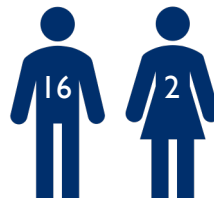
Malls: 9
Hypermarkets: 8
Cafes and
Restaurants: 9
Hotels: 6



FOCUS GROUP DISCUSSIONS

4

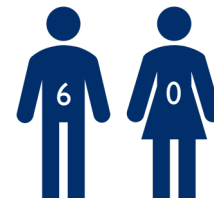
Malls: 1
Hypermarkets: 1
Cafes and
Restaurants: 1
Hotels: 1



DYADS

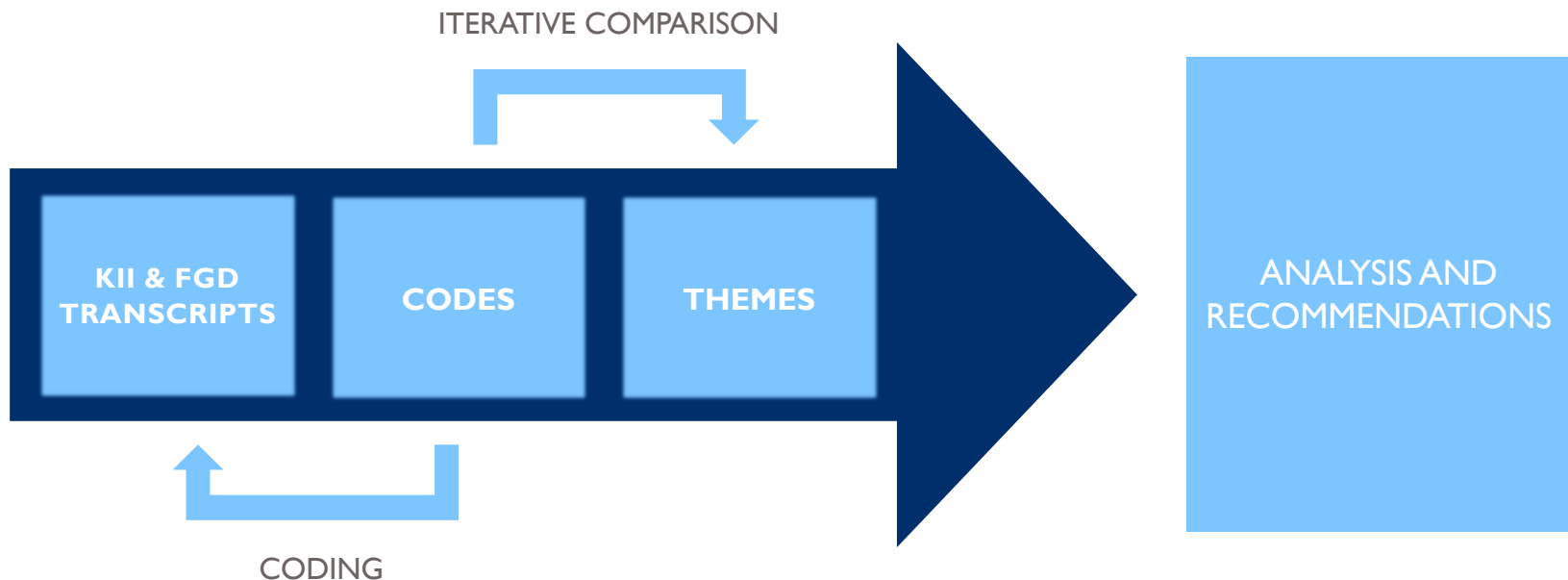
3

Hypermarkets: 1
Hotels: 2



ANALYSIS METHODOLOGY

To ensure consistency between the research questions, COM-B analytical framework and data collected, MAGENTA employed an iterative approach to coding and analyzing the qualitative transcripts. An initial coding structure was developed that reflected the structure of the COM-B model and questionnaire. But to allow for other themes and trends to emerge, the coding structure was routinely reviewed and updated to ensure that those insights were captured.



CLASSIFICATION OF RECYCLING BEHAVIORS

As part of the analysis MAGENTA conducted a post-classification of recycling behaviors as doers, non-doers and ex-doers. These are defined below and allow for a comparative behavioral analysis to understand key differences between these groups.

DOERS

Doers were determined if the respondent's company had a system in place to separate recyclable materials from waste (whether internal or external process) and was taken by either private company, municipality or individual waste picker to be recycled.

NON_DOERS

Non-doers were determined to be companies who did not separate waste materials, disposing all waste together. The intent of the company was taken into account, whereby if a respondent said there were no systems or programs in place to recycle, they were categorized as non-doers.

EX-DOERS

Ex-Doers were respondents whose companies used to partake in active recycling processes but no longer do due to varying circumstances.

SAMPLE BREAKDOWN BY RECYCLING ACTIVITY



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TYPES OF WASTE GENERATED (SECTORAL COMPARISON)

	Hotels	Malls	Cafes & Restaurants	Hypermarkets
Type	Cardboard and Paper Plastic Glass Cans Cooking Oil Metals Organic Waste	Cardboard and Paper Aluminum Cans Plastic Glass Nylon Polystyrene Metals Cooking Oil Organic Waste	Cardboard and Paper Plastic Glass Cans Food Waste Cooking Oil	Cardboards and Paper Nylon Polystyrene Plastic Metal
Percentage of recyclable waste	=~ 40 to 50 %	=~ 40 to 60 %	=~ 40 to 50 %	=~ 40 to 60 %
Frequency of waste generated	Daily	Daily	Daily	Daily
Frequency of waste collection	Daily or every two to three days	Every two to three days	Every two to three days	Every two to three days

TYPE OF WASTE GENERATED (MALLS)

Malls reported generating the following main types of waste:

- **Cardboards** and **paper** products, **aluminum**, **cans**, **bottles** (glass and plastic), **nylon**, **polystyrene**, **metals** (iron, aluminum, copper), **cooking oil**.
- **Organic** or non-solid waste

According to those surveyed, approximately 40 to 60% of the waste generated is recyclable. In the Malls sector, waste is generated on a daily basis and collected every one to three days.

Generally malls reported producing around 10 tonnes of waste per week.

“

“This is daily. We have a huge quantity of cardboard – maybe 1 ton, or slightly less, because 90% of the products come in cardboard boxes.”

---Staff Member Mall, Amman

“

We only have cardboard boxes. We gather them and then they are taken out to the containers

TYPE OF WASTE GENERATED (HOTELS)

Hotels reported generating the following main types of waste:

- **Cardboard, Plastic, Glass, paper, cans, Cooking oil, metal**
- **Organic** or non-solid waste

According to those surveyed, approximately 40 to 50% of the waste generated is recyclable. In the hotel sector waste is generated on a daily basis, however it is collected every two to three days from the premises.

Hotels reported producing approximately 20 tonnes of waste per month (600-700 kg in three days). Larger hotels, for example, reported 1,000 to 2,000 cans and bottles on a normal day before the COVID-19 pandemic.



TYPE OF WASTE GENERATED (HYPERMARKETS)

Hypermarkets reported generating the following main types of waste:

- **Cardboards** and **paper** products, **nylon**, **polystyrene**, **plastic** (bags and bottles) and **metals**

According to those surveyed, approximately 40 to 60% of the waste generated is recyclable. Similar to hotels, waste is generated daily and collected every two to three days from the premises. Generally, hypermarkets produce two to four tonnes of cardboard per week and 300-400 boxes of plastic per day.



TYPE OF WASTE GENERATED (CAFES AND RESTAURANTS)

Cafes and restaurants reported the following as the primary types of waste generated:

- **Cardboards, plastics** and **paper** products, glass and plastic **bottles** and **cans**
- Food waste (left-over food, vegetables etc.), cooking **oil** (recycled by the restaurants using an oil recycling machine or a private company)

According to those surveyed, approximately 40 to 50% of the waste generated is recyclable. Similarly, to the other sectors, waste is generated on a daily basis and collected every two to three days. Restaurants and cafes reported producing approximately 200-250 liters of cooking oil waste each month, as well as large volumes of soda cans and glass bottles, particularly among those serving alcohol. Several cafes and restaurants surveyed reported recycling cooking oil about every seven to ten days.



RECYCLING AND WASTE DISPOSAL COMPANIES

When asked about recycling and waste disposal companies, the following were identified and appear to have some level of brand recognition.

- Fast step
- The Ideal Solution
- Green Future
- Zawati
- Almethaliah (Oil Recycling company)



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CAPABILITY – KEY BARRIERS

Capability of commercial waste generators were explored to understand the importance as a factor in determining whether a company recycles or not. Specifically, this looked at **physical** and **psychological** capabilities, such as decision-making processes, corporate policies, sorting capabilities, man-power profiles, wages and costs, physical infrastructure, financial means, and knowledge and awareness.

The following have been identified as the three primary capability barriers to recycling.

1

Waste Generators lack awareness of the recycling concept and the services available

Non-doers reported lower levels of awareness of recycling and the availability of service providers than doers.

2

Waste Generators lack finances to afford private sector services and the tools and equipment required

Non-doers were more likely to express perceptions of recycling as being costly and financially taxing than doers.

3

Waste Generators lack physical space to place containers and sort different type of waste

Non-doers were more likely to express concerns around the availability of the physical space needed for sorting waste than doers.

PHYSICAL CAPABILITY (DOERS)

Commercial waste generators that recycle exhibited a few key factors that seem to determine their behavior.

Sorting is mostly outsourced to private companies, individual waste pickers or daily laborers by doers. Very few companies in the malls, hotels and hypermarket sectors have full-time employees for sorting waste. In the malls, the cleaning staff collect all the waste from all the stores and shops, and take into the skip area where they separate the recyclable and non-recyclable waste. Recyclable and non-recyclable waste is then carried in separate vehicles by the employees of private companies.

Supply of recycling equipment and labor are an important component of recycling behavior. In some cases, the containers for sorting are provided by the private companies. Some respondents reported that employees of the private company come to the premises for about five to six hours per day to sort different types of waste.

Gender diversity is significantly lacking when it comes to recycling in the target sectors. All companies reported using only male employees for sorting and waste disposal. Most companies hire Jordanians. However, some of these employees are daily waste pickers, who tend to be male Egyptian or Bangladeshi laborers.

PHYSICAL CAPABILITY (DOERS)

Availability of physical space is a significant factor for doers. Doers across sectors reported having dedicated rooms or outdoor space allocated for waste disposal and sorting. However, a few reported that sorting by private companies on the premises requires special permissions from the municipality due to health and safety laws. Therefore due to the lack of physical space, the waste is carried to specific areas by the private companies for sorting.

Limited recycling of waste was reported by doers. Most doers across sectors separate cardboard, nylon and polystyrene to be taken by the private companies or waste pickers. All other kinds of solid waste is put in bin bags without sorting and taken by the municipality trucks to the landfills.

Doers in the cafes and restaurants sector only recycle cooking oil. They use oil recycling machines to recycle cooking oil or outsource it to private recycling companies that collect the oil in large drums. Most cafes and restaurants have contracts with the private companies.

“

I devised a system. In each branch we have an area with a cage around it, for cardboard, polystyrene, and the company who removes our waste provided us with containers to put the trash in. And they are separated by the employees. It does not require a supervisor, it's a straightforward process.

---Staff Member Mall, Amman

“

We have bags for the green items, and bags for recycling, and bags for the non-solid waste. They are put in a particular area for the municipality to come and pick them up. *Staff Member Mall, Amman*

“

Of course. We were ready from the start, and we did not have to make any changes. This Mall was designed in the USA, and so it was designed to cater to recycling activities.

- Manager Mall, Amman

PHYSICAL CAPABILITY (NON-DOERS)

Commercial waste generators that did not recycle have been analyzed here.

Sorting is a challenge for non-doers. Most of the companies in the 'non-doers' segment do not have internal sorting capability or employees to sort waste.

Staff at some malls reported that it is the responsibility of the shop owners or restaurants to adopt recycling behavior, as it is difficult for them to manage or hire employees to keep track of all shops' waste and doing so would increase their costs.

Lack of physical space is a significant barrier. It was reported that waste disposal is not taken into consideration during the construction of buildings for restaurants and cafes. For example, no separate area is allocated or built for waste disposal or sorting during the construction phase, and therefore the companies must dispose of the waste on a daily basis without sorting in-house.

Most of the non-doers consider lack of physical space as a primary reason not being able to take on sorting or recycling behavior.

Lack of financial resources are a critical reason companies do not adopt recycling behaviors. According to non-doers from different sectors, sorting and recycling is costly as it requires buying extra bags, bins, tools and hiring more employees.

These companies report that the private recycling companies charge exorbitant fees for waste disposal and recycling services. Therefore the cost is higher than the benefit they might receive.

PHYSICAL CAPABILITY (NON-DOERS)

Lack of infrastructure is a significant problem. Many modern buildings, especially those designed abroad for the malls and big hotels, have physical space that allows for recycling activities. Most of these companies, however, do not have separate bins or containers for sorting and lack physical infrastructure to carry out sorting in house.

Lack of required machinery is also a factor. In certain areas the private companies do not have the specific machinery required for carrying trash containers. So, the private companies sign contracts with only those waste generators whose infrastructure is compatible with the kind of machinery these private companies have. This is critical as this represents a supply side barrier.

“

We spoke with a number of supermarkets and they have the same reservations that their space is not enough, the financial revenues are not worth the trouble, the effort that needs to be made is too much...
—General Manager Hyper market, Amman

“

The space, for example the 5 stars hotels usually have garbage rooms where they can sort the garbage but when it comes to the restaurants they can not keep the garbage it needs to be thrown away everyday and sanitize where it was.. —Manager Restaurant, Amman

DECISION-MAKING PROCESSES (DOERS)

Lack of clear decision-making structure regarding waste management is a barrier within some companies. When trying to understand how decisions around waste management are made, it was found that most entities did not have clear or consistent policies or focal points when it comes to this matter.

It was found that across sectors and organizations, individuals at different levels and within a variety of departments are responsible for making decisions regarding waste management. For example, in the case of malls or hotels, the kitchen or housekeeping departments took responsibility of their own waste and there does not appear to be a centralised process for waste disposal.

In some of the multinational organizations, such as Marriott, the decision is made at the headquarters level, which is then implemented globally.

“

“...it really is not a financial matter, it's a policy that is imposed on me by HQ, and I have to invest in it...”

—Head of Engineering, Hotel, Amman

DECISION MAKERS (DOERS)

Some hypermarkets, such as Safeway, have hired engineers for waste management and recycling, and the engineering department is responsible for waste management and recycling.

The following is a summary of the positions or departments involved in making key decisions regarding waste management:

- Engineering department
- Finance department
- Procurement department
- Warehouse managers
- Operations managers
- General managers

Most individuals involved in making any decisions related to waste management are male employees of the companies, and who are either the owners of these companies or senior level managers.



PSYCHOLOGICAL CAPABILITY: KNOWLEDGE, SKILLS AND AWARENESS

Lack of knowledge and awareness is problematic. Overall, companies in different sectors have extremely low levels of knowledge and awareness of the recycling sector and/or services available.

Respondents across sectors report that there is a dearth of knowledge, skill and awareness regarding the importance of recycling at the community level in general.

Some commercial waste generators reported receiving free waste disposal and sorting services from recycling companies; however, majority of the commercial waste generators are not aware of such services or have never been approached.

Lack of interest in recycling is also common. Many respondents, particularly from cafes and restaurants, showed a lack of interest or awareness regarding the importance of recycling. Most of these companies also lack awareness about the waste disposal and recycling services provided by the private companies or individual waste pickers.

“

“...we collect the waste every night and put them in a dumpster only for the cardboards, and then a company takes them and uses them again. I do not know what they do with them...”

--Staff member Hypermarket, Amman

“

“I'm really interested. Because we only have one place where we handle the waste. The rest are inside malls, and you know how they are with regulations. They need approvals and a whole lot of running about, so we really did not want to get involved.” -

- Manager Restaurant, Amman

PSYCHOLOGICAL CAPABILITY: KNOWLEDGE, SKILLS AND AWARENESS

Waste disposal vs. recycling is an important distinction. The majority of the respondents could not differentiate between waste disposal and recycling services. Most are only aware of some private waste disposal companies that remove waste from their premises, but are not aware whether the waste taken away is recycled or not.

Most employees of companies that have some sorting capability or mechanism are not aware what happens to the separated waste after being taken either by the municipality or a private company.

High level of knowledge is limited to few multinational companies with structured decision-making. Companies in the malls and hotels sector, where decision-making regarding waste disposal and recycling lies with the engineering departments, showed very high levels of commitment in addition to high levels of knowledge, skills and awareness. Only multinational companies, such as Marriott, have effective procurement departments that gather information on the recycling companies working in the Amman region.

“

“I am not in need of these companies. My goods, when I buy them, they are all in boxes. So, I do not need to recycle the boxes. In my work, I do not need cardboard boxes. I receive my goods in boxes, I empty them out, and I have to get rid of the boxes. That's all.”

Staff Member, Hypermarket, Amman

“

“Among my responsibilities is also waste management, from a technical perspective, and all other waste materials that can be reused...we signed a contract with a company to remove the cardboard, the polystyrene and the plastic...” Engineer Mall, Amman

PSYCHOLOGICAL CAPABILITY: KNOWLEDGE, SKILLS AND AWARENESS

Trainings in recycling and waste management are limited. Apart from a few multinational hotels, the majority of the commercial waste generators do not have any formal training programs for employees regarding the importance of recycling, due to high costs of training. Only a couple of multinational hotels reporting having recycling as part of their health and safety induction course at the start of the employment.

Willingness to adopt behaviour in the future is high. Most respondents across sectors showed high optimism regarding adopting recycling in the future. This was seen among the waste generators, as well as the public in general if effective social and behavioral change campaigns are conducted.

“

“I do not think there would be a huge obstacle, it is only the beginning and how to get used to doing the sorting. It is just a matter of getting used to doing it just like adopting precautionary measures to stay safe from the pandemic. We were not used to wearing masks and keep social/physical distance but now we do not leave the house without wearing a mask and avoid shaking hands. So, it is just a matter of getting used to a new thing”

– Staff Member at Hypermarket, Amman

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OPPORTUNITIES – KEY BARRIERS

Opportunities of commercial waste generators were explored to understand the availability and quality of services as a factor to determine if the company recycles or not. Specifically, this looked at physical opportunity and social opportunity, such as the availability and quality of services, and social norms and influences, and knowledge and awareness of the services available.

The following have been identified as the three key opportunity barriers to recycling.

1

Waste generators lack awareness about the availability of recycling services and perceive the services provided by the private companies as expensive and unreliable.

2

Waste generators perceive that private sector companies have limited capacity and can only recycle select items, such as cardboard and cooking oil.

3

Waste Generators realize that recycling is not aligned with social norms and there is no social pressure, as not recycling is not considered unethical by society.

PERCEIVED AVAILABILITY OF SERVICES

The research explored what commercial waste generators understood to be available in terms of waste management services. It should be noted that this was not a mapping exercise and, as such, all findings are *perceptions* and do not necessarily reflect what is *actually* available.

Awareness of following types of services was assessed:

1. Private Sector Companies
2. Public Waste Disposal Services i.e. Greater Amman Municipality
3. Individual Waste Pickers



PERCEIVED AVAILABILITY OF SERVICES

Private sector companies are used by some doers. Private sector recycling services are mostly contracted by the big hotels and malls in Amman. At some malls, doers sort the waste on-site and different companies are contracted only for disposal of different type of recyclable waste. Some hotels, cafes and restaurants have contracted private companies that specialize only in the recycling of cooking oil.

Public waste disposal services are the services provided by the Greater Amman Municipality. These public waste disposal services are used by companies across the target sectors. These services, however, are mostly used by the non-doers as they simply throw all the waste in a dumpster and the municipality takes it to the landfills. The municipality does not provide any kind of sorting services. Moreover, these waste disposal services are quite irregular and the reliability of it depends on the specific area in Amman. A couple of hotels reported that municipality has recently initiated recycling services as part of some foreign funded NGO projects.

Individual waster pickers are mostly used by cafes and restaurants and hypermarkets. They pick up the recyclable waste and sell it to the recycling companies. Most of them provide this service for free.

“

...we signed a contract with a company to remove the cardboard, the polystyrene and the plastic, and they give it to the concerned entities for a very nominal fee.

--Engineer Mall, Amman

“

No, it's only the Municipality. They come and take the waste, and sometimes we have an individual who take the cardboard...

Owner Supermarket, Amman

“

I have no idea about the companies, but there are individuals who come and take the cardboard boxes and the paper products...

Restaurant Manager, Amman

PERCEIVED AVAILABILITY OF SERVICES

Insufficient suppliers of recycling services The respondents perceive that there are not many companies available in the formal sector that provide recycling services. Very few private sector companies operate in the Greater Amman Municipality, however they are not sufficient to cater to the different needs of different kind of waste generators in the region.

Almost every doer using private sector services said that private companies approach them offering waste disposal and sorting services. Therefore, even among doers, the behavior is not always sought out. The majority of commercial waste generators are not aware of any such services, as they have never been approached by a service provider.

Limited services available affects perceived reliability. Respondents report that the service providers do not have the capacity to recycle all sorts of waste. For examples, respondents in cafes and restaurants sector either have oil recycling machines or have contracts with private companies who specialize only in recycling oil. These respondents only recycle oil, because the service providers do not have the capacity to recycle other forms of waste and/or they lack the financial capital to set up the infrastructure and hire the human resources required to provide services at a large scale.

Some doers also report that they have contracted separate companies for different types of waste, for example cardboard and paper is taken by one company, whereas glass and plastic by another.

PERCEIVED AVAILABILITY OF SERVICES

No Public Sector Recycling Services

None of the companies described any public sector entity as a recycling service provider. The Greater Amman Municipality only provides waste disposal services that pick up the waste from the area and take it to the landfills without sorting or recycling.



PERCEIVED QUALITY OF SERVICES - OVERVIEW

The perception of the quality of services provided by different type of services provider depends on the various priorities of doers and non-doers (for example how they define the extend of service provided) as summarized in this table :

	Private Sector	Public Sector	Individual waste pickers
DOERS	<ul style="list-style-type: none"> • Perceived reliability • Perceived adequate frequency of collection • Perception of provision of full services 	<ul style="list-style-type: none"> • Perceived lack of reliability • Perception of provision of limited services 	<ul style="list-style-type: none"> • Perceived as not relevant due to their inability to handle the large volume of waste produced
NON DOERS	<ul style="list-style-type: none"> • Perceived cost • Perceived lack of reliability 	<ul style="list-style-type: none"> • Perceived as acceptable service despite irregularity 	<ul style="list-style-type: none"> • Perceived absence of costs for the waste generator

PERCEIVED QUALITY OF SERVICES (PRIVATE SECTOR - DOERS)

Perceptions about the quality of private services are mixed depending on the service provider.

Commitment and reliable services are the main determinants of the quality of the services. Services provided by the private sector are hailed as opposed to the public sector services, as they provide timely services and are committed to removing the waste from the company premises regularly.

Frequency of waste collection factors into perceived quality of services. Private sector companies are preferred over public sector services due to more frequent waste collection. Private companies provide daily services, and collect waste on a daily basis from the premises of most of the commercial waste generators. Additionally some companies collect waste two to three times a day from some the malls and hotels.

Some food sector waste generators have negative opinion of the quality of services, as the organic and non-solid waste need to be removed on daily basis from the premises, whereas some companies do not provide daily services.

“

“...for us the most important thing is commitment. Sometimes, if their vehicles break down, the rent cars from other companies so as not to be late...”

--Staff member Hotel, Amman

“

this need good companies with good capabilities to provide such service. As I said, restaurants have a lot of food waste, and that needs to be disposed on regular basis. So the service provider needs to be very committed.”
Staff Member, Restaurant, Amman

“

...sometimes there would be delays in the pick-up, and you would find cardboard boxes stacked in the receiving area. The collection must be daily...” Staff Member Hote, Amman

PERCEIVED QUALITY OF SERVICES (PRIVATE SECTOR - DOERS)

Full-service waste collection providers are preferred. Some of the private sector companies provide employees and containers for sorting and remove all the recyclable and non-recyclable waste from the premises, in addition to cleaning the waste area. Some recycling companies, such as Green Future, provide a full-time employee to clients to sort waste at origin. The recyclable waste is taken to the factory, whereas the non-recyclable waste is taken to the landfills in a separate vehicle.

Communication with service providers is key. Private sector services are preferred over public services and individual waste pickers due to better communication and response from the private companies.

Lack of sufficient infrastructure and logistics affects perceived quality. Waste generators report that most of the private companies lack the logistics of large-scale recycling service provider. They do not have sufficient finances to cater to all the recycling needs of the waste generators. According to the respondents most of these companies are only able to recycle cardboard, polystyrene and plastic, whereas no company has the facility to recycle organic or non-solid waste.

"...for the company to provide recycling services, I need the containers where I can separate the waste. Also the cleanliness of the location and the regular pick-up."

--Manager Mall, Amman

“

They are very good and responsive. Very respectable, and very committed. We call them at any time, and they come to us without any delay"

Staff Member Hotel, Amman

PERCEIVED QUALITY OF SERVICES (PRIVATE SECTOR - NON-DOERS)

Lack of commitment and reliable services turn off non-doers. Many non-doers perceive that the recycling services and waste disposal companies are not committed and do not provide timely services in accordance with their contracts.

Costs of recycling services are perceived to be too high for many waste generators. Some waste generators reported installing separate containers and bins for sorting, but the service provider quoted huge fee for removing the recyclable waste from the premises.

Most private companies do not provide containers or bins for sorting. Whereas some of the waste generators declined recycling services, because the waste generators were only provided containers, but lacked the workers needed to sort the waste.

These companies are not willing to bear the extra costs of employing staff for sorting. Waste generators prefer a full-service company that can provide services from sorting to picking up and cleaning the premises.

The Marriott in Amman region report to have cancelled their contract with a private company because the company increased its fee to a level where it was not within their budget allocated for recycling.

PERCEIVED QUALITY OF SERVICES (PRIVATE SECTOR - NON-DOERS)

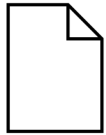
Frequency of waste collection impacts perceived quality of services. Cafes and restaurants tended to have apprehensions regarding the quality of the services provided by the private sector companies. According to the non-doers in this sector, private sector companies do not come to pick-up waste two to three times a day, and the waste needs to be removed more than once a day.

Restaurant sector non-doers, however, would still prefer to contract private sector companies as they think they would have a better plan and communications compared to the public sector and individual pickers.



QUALITY OF SERVICES (PRIVATE SECTOR)

Types of waste that is taken by the companies for recycling:



Cardboard

Paper

Nylon



Polystyrene

Plastic

Aluminium



Soda cans

Bottles (Plastic and Glass)



Iron

Copper

Cooking oil

PERCEIVED QUALITY OF SERVICES (PUBLIC SECTOR - DOERS)

Perceptions about the quality of the public sector waste disposal are mixed.

Low quality services lead many companies to avoid public sector service providers. Doers and large-scale waste generators such as hotels and malls deem the public sector services to be of extremely low quality, as they need a more reliable and frequent service provider that can provide full services, including sorting, removal of waste from the premises and cleaning the area.

These waste generators do not rely on the public sector services as those are irregular and not timely. The municipal government does not provide any sorting or recycling services; and it only provides waste disposal services more regularly in certain areas. In certain areas the municipality pick up the waste once a day, whereas in other areas they come once every two or three days. Due to an insufficient number of dumpsters present at the site, commercial waste generators leave the garbage around the containers.

These public sector services are considered to be of extremely low quality as they only pick up the waste and leave the premises unclean.

“Another thing is that I am dealing with a company that is maintaining the cleanliness of the place. If I was dealing with the Amman Municipality, they come, they pick up the garbage, and they leave. They have nothing to do with anything else. These companies on the other hand, and depending on the contract you have with them, leave everything clean.”
Manager, Mall, Amman

“If I was dealing with the Amman Municipality, they come, they pick up the garbage, and they leave. They have nothing to do with anything else. These companies on the other hand, and depending on the contract you have with them, leave everything clean.”
Manager Hotel, Amman

PERCEIVED QUALITY OF SERVICES (PUBLIC SECTOR – NON-DOERS)

Satisfaction with public sector waste disposal service providers was high among non-doers and small-scale waste generators, such as cafes and restaurants. These companies tended to be most interested in waste disposal, rather than in the recycling. These waste generators seemed to be content with the quality of services provided by the municipality. However, they complain about these services being irregular and would prefer the waste being taken more frequently from their areas.

PERCEIVED QUALITY OF SERVICES (INDIVIDUAL WASTE PICKERS – NON - DOERS)

Individual waste pickers are used by commercial waste generators in different sectors.

Free of cost service is appealing to many waste generators. Many medium and small-scale waste generators use individual pickers as they do not charge any fee for picking up the waste and for cleanliness. Their services are perceived as a favor or free service provided to the company. In return the company offer free recyclable waste as an incentive or a source of income to the waste pickers.

Full-service recycling is appealing to many waste generators. Some of these more regular individual waste picker provide full-service recycling by sorting the waste, taking the waste to the dumpster and cleaning the waste area in the building. Those individual pickers sort and sell recyclable items to the recycling factories. The individual waste pickers come more regularly to pick up the waste as that is their only source of income.

However, **communication** with individual waste pickers is difficult on the days when commercial waste generators need to dispose of the waste more than once during a day.

PERCEIVED QUALITY OF SERVICES (INDIVIDUAL WASTE PICKERS – NON - DOERS)

Lack of capacity to meet the needs of larger waste generators is a main reason why individual waste pickers are not preferred by these companies. Large-scale waste generators such as malls and hotels cannot rely on the individual waste pickers due to the large volume of waste generated, which requires special machinery to carry the waste.

Some large-scale waste generators, however, give some recyclable waste to the individual waste pickers to support them financially.

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“...I personally deal with individuals, because they are usually more committed since they too benefit. And in the end, what we need is someone to clean up the area.”

—*Manager, Warehouse, Hypermarket, Amman*

SOCIAL OPPORTUNITY: SOCIAL NORMS AND INFLUENCES

Most of the participants surveyed believe that recycling is still not part of the social norms and ethos in Jordanian society.

There is severe lack of awareness about recycling in the society and people are generally not aware of the concept of recycling. People lack awareness about the importance of recycling and its impact on the environment, and therefore generally dump everything together without sorting.

There is no social or peer pressure from the community, given that not recycling is not considered anything harmful for the environment if the area or premises is clean, and the waste is disposed of. The cultural and social norms do encourage cleanliness; however, the concept of recycling is still new and present only in certain socio-demographic groups. Therefore, recycling behavior needs to be made part of everyday life.

Moreover, there are no fines in place for companies that do not recycle or dispose of waste properly. The concept of “green hotels” is emerging but it is still far away from achieving any tangible results, therefore require more awareness raising among the customers to make it more widespread in the hotel sector.

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“The majority of the people have no idea about recycling. Maybe some malls do, but in general, people do not really understand this concept, basically how to do proper sorting such as separate the cardboard from the organic waste, plastic, nylon.... People have not reached there yet. They just dump everything together, and dispose of it. ”

Operations Manager, Mall, Amman

— BACKGROUND & METHODOLOGY

WASTE PROFILE AMONG COMMERCIAL WASTE GENERATORS

BARRIERS TO COMMERCIAL WASTE RECYCLING – CAPABILITIES

BARRIERS TO COMMERCIAL WASTE RECYCLING – OPPORTUNITIES

BARRIERS TO COMMERCIAL WASTE RECYCLING – MOTIVATION

RECOMMENDATIONS

MOTIVATION – KEY FINDINGS

Motivations of the commercial waste generators were explored to understand the primary factors that drive the behavior of doers, and what could possibly be the factors that influence the non-doers behavior.

The following were identified as the three key drivers to recycling.

1

Provision of waste disposal and recycling services at a lower-than-normal cost will encourage the waste generators to adopt recycling behavior.

2

Incentives such as discounts, tax exemptions, free publicity and provision of free recycling tools and equipment will motivate waste generators to take up recycling behavior.

3

Clear corporate policies regarding waste disposal and recycling activities compel companies to adopt recycling behavior.

MOTIVATING FACTORS (DOERS)

Cleanliness is a central motivator for proper waste disposal by companies. Hiring private sector recycling or waste disposal companies help the commercial waste generators keep their place clean and maintain the cleanliness by providing timely and consistent services.

Monetary/Cost efficiency is a critical motivator for some companies. Some recycling service providers or waste pickers remove the waste from the premises for free, which reduce the cleanliness or waste disposal cost of waste generators.

Using recycling service providers reduces the amount of waste they must dispose of in other ways. Doers reported that using recycling services actual reduced their waste disposal cost or fees significantly. Companies report to save around 2/3rd of the cleanliness and waste disposal cost.

Moreover, recycled products are low cost as compared to the new branded products imported from abroad.

“

“...If you want to employ a company that is specialized just in the removal of waste it costs anywhere from 1500, 1800 to 2000 Jordanian Dinars per month.

When you have recycling company that have their own employee to separate the waste, and clean up, the maximum you pay them is 600JD on a monthly basis. So, you are saving practically two thirds of the cost...”
Manager Hotel, Amman

MOTIVATING FACTORS (DOERS)

Organizational values and policies play a central role. Some companies include environmental protection in the company values. This is done to increase customer awareness and garner support. Malls try to raise awareness about recycling and environment by installing separate bins in the marketplace for different kind of wastes, which creates awareness among the public and, in turn, helps them sort the waste before being taken away by the recycling or waste disposal company.

Discounts for recycling are also a significant motivator. Waste generators reported receiving discounts from service providers on the fee they charge for removing waste from the premises. In addition, it was reported that a new initiative was launched by the Municipality, where those companies that do the sorting properly receive a waste compressor free of charge.

“I have a contract with a company to remove my waste products, which is my main concern. I pay about 24 thousand a year. If the fact that they recycle reduces the fees I have to pay to 14 or 15 thousand, I am saving money...”
—Mall Manager, Amman

“It is a global hotel policy. We are concerned with the environment, and our employees too. Any recycling operation is very acceptable and properly followed...” Manager
Multinational Hotel, Amman

MOTIVATING FACTORS (DOERS)

Environmental concerns are central to companies' decision-making processes in some cases. Several doers cited corporate social responsibility and protecting the environment as the main driving force for adopting recycling behavior.

Image-recognition plays a role in motivating companies to recycle. Several doers mentioned image-recognition and good reputation as a driving force to be involved in the recycling process. Their goal to be branded one of the leaders in protecting environment through recycling waste and motivate more companies to adopt recycling behavior.

Private recycling companies expressed interest in adopting more recycling behaviors and would like to be marketed and advertised for adopting recycling behavior, which would compensate for the costs and time required to recycle.

MOTIVATING FACTORS (NON-DOERS)

Cleanliness of recycling is a concern. Non-doers expressed interest in adopting recycling behavior if the recycling or waste disposal companies provided more frequent and reliable services.

Lower costs and discounts would motivate many non-doers. Despite some commercial waste generators or doers reporting free or discounted waste disposal and sorting services from the recycling companies, the majority of commercial waste generators are not aware of such services or have never been approached. Therefore, the majority of the non-doers consider recycling to be costly and one of the primary reason why they are not interested in or able to sort and recycle their waste. Reduced cost of waste disposal and cleanliness will motivate the non-doers to adopt recycling behaviors. In addition, tax exemptions or reduction in license costs would drive the non-doers to take up recycling behavior.

“

“...They will save us the burden of disposing of our waste – when we place them in the Municipality container, sometimes, due to weather conditions, they give out a horrible smell. What I care about is that my waste is removed...” --Manager Restaurant, Amman

“

I think the fact that you can bring in income and save me money, and the disposal of my waste products – what more can I want. I mean we have waste, and we have to dispose it of, so why not benefit in the process...”

Mall Manager, Amman

MOTIVATING FACTORS (NON-DOERS)

Supply of tools and equipment is a central motivating factor. Some non-doers expressed an inability to purchase the tools and equipment required for separating and sorting recyclable waste (e.g. compressors and separate bins). Therefore, the companies would be willing to sort and allocate time for recycling activities if they are provided both the tools and human resources necessary to sort recyclable waste.

Publicity/image-recognition could be better leveraged to motivate non-doers. Many non-doers see free publicity as an incentive that would encourage them to adopt recycling behaviors and start sorting waste. If their brand or names of their entities can be publicized for protecting the environment, this would motivate some companies to recycle.

Association of restaurants has significant influence in the café and restaurant sector. The Association of Restaurants can be an influencing actor in driving the restaurant owners to adopt more recycling behavior as part of an initiative taken by the association.

MOTIVATING FACTORS (NON-DOERS)

Increased Revenue/Financial Rewards could be better utilized to motivate non-doers. Non-doers expressed a willingness to invest in recycling activities, if the recyclable waste would increase their revenue and cover the cost of the recycling or sorting.

As profit-making entities, these commercial waste generators look at the cost-benefit analyses, and most of them consider it costly that lower their net profit, therefore incentives in terms of discounts in electricity cost or gas or tax would help develop their interest in adopting recycling behavior.

“

..I cannot hire an employee for 300JDs, to sell cardboard boxes worth 10JDs each month...” Manager of Hypermarket, Amman

— BACKGROUND & METHODOLOGY

WASTE PROFILE AMONG COMMERCIAL WASTE GENERATORS

BARRIERS TO COMMERCIAL WASTE RECYCLING – CAPABILITIES

BARRIERS TO COMMERCIAL WASTE RECYCLING – OPPORTUNITIES

BARRIERS TO COMMERCIAL WASTE RECYCLING – MOTIVATION

RECOMMENDATIONS

KEY RECOMMENDATIONS

This section present key programmatic recommendations based of the key barriers and drivers that were identified from the analysis presented above. The following are the key three programmatic recommendations for how to influence commercial waste generators to adopt more recycling behaviors.

1

Educate and raise awareness among the commercial waste generators regarding the importance of recycling and the benefits and incentives they can receive.

2

Employ a comprehensive behavior-change-focused communication campaign, targeting the behavior of commercial waste generators.

3

Solve information asymmetry by connecting the commercial waste generators with the private sector recycling services providers in the Amman region.

I. EDUCATE AND RAISE AWARENESS AMONG COMMERCIAL WASTE GENERATORS

While a number of companies are actively engaged in recycling in Amman through the services of the private sector recycling companies, the majority of the commercial waste generators are still not aware of the concept of recycling or any private sector companies that provide recycling services. Lack of awareness about the concept and process of recycling is the primary barrier to adopting recycling and waste separation behaviors. Therefore, **it is recommended the JRA together with implementing partners aim to educate and raise awareness among the commercial waste generators regarding the importance of recycling for the environment and the benefits and incentives available.**

The awareness training programs can focus on the following:

- Importance of recycling
- Better quality services provided by the private sector companies
- Different kind of benefits/discounts these commercial waste generators can receive by adopting recycling behaviors
- Access to recyclable items at a reduced cost
- Development of training guides for collection and sorting of waste for different sectors

2. DEVELOPMENT OF BEHAVIOR-CHANGE-FOCUSED COMMS CAMPAIGN

Recycling waste is not a mainstream behavior in Jordanian society, **therefore it is recommended that a comprehensive behavior-change-focused communication campaign is designed to target the behavior of the commercial waste generators.** This would help develop new recycling norms through commercial waste generators and change perceptions of residual waste, while fostering social influence to encourage the adoption of recycling behaviors.

The SBCC approach should include a 360 degree, design, implementation and evaluation approach.

SBCC Design

- Target audience segmentation and analysis
- Key message house – per audience segment
- Communications channel selection
- Creative concept
- Communications tactics
- M&E framework

SBCC Implementation

- Message testing
- Content development
- Content testing
- Media and outreach activities

SBCC Evaluation

- Longitudinal perception studies

3. FACILITATE COMMUNICATION BETWEEN THE SERVICE PROVIDERS AND WASTE GENERATORS

The majority of non-doers have negative perception of the quality of services provided by the private sector companies. Additionally the perceived costs associated with the provision of services by the waste disposal companies are high. As identified in the research, a number of private recycling companies cost less than the traditional waste disposal companies. **Therefore it is recommended that the JRA seek to bridge this misinformation gap or solve information asymmetry by connecting the commercial waste generators with the private sector companies in the Amman region.**

4. DEVELOP AN ORGANIZED SYSTEM FOR THE USE OF INDIVIDUAL WASTE PICKERS

The perceived high-costs associated with the purchase of extra bags, bins, tool and hiring additional employees is another significant barrier towards adopting recycling behavior. This, however, can be addressed by connecting individual waste pickers with the small and medium scale commercial waste generators with limited resources. As these waste pickers provide services free of charge smaller companies may be more likely to engage in recycling through these means. **It is recommended that the JRA along with its implementing partners develop a more structured and formal system for availing the extremely low cost or free services provided by the individual waste pickers.**

5. PROVISION OF MORE INCENTIVES TO THE COMMERCIAL WASTE GENERATORS

Commercial waste generators are eager to adopt recycling if the incentives or benefits associated with it outweigh the costs. Therefore, it is **recommended that the JRA along with its implementing partners and recycling companies provide incentives** such as:

- Branding and Publicity campaigns
- Provision of tools, free bins and containers for recycling
- Municipality fee discounts and tax exemptions via public-private partnership