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MARGINALISED WOMEN AND TIME SCARCITY: A MIXED METHOD STUDY ON 'ON DEMAND WORK APPS'

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Abstract

On-demand work applications (ODWA), a form of digital platforms, are the primary enablers of short-term or 'gig' work economy. In this paper, we study these platforms in their role as enablers of women belonging to low socio-economic sections. These women act as the primary unpaid workers while being expected to make economic contribution. Hence, they suffer from classic case of time scarcity. Gig economy enabled by these ODWAs have made this possible to some extent. We employ the theoretical lens of affordance theory to delineate the affordances that are provided by the various features of ODWA and their impact on these women. We do a mixed method study employing interviews of gig workers supplemented with survey of 927 workers of one of the largest ODWA in India. Our analysis points to the sense of identity and individuality that these platforms provide. We also find that the presence of a digital platform between the customer and these women lowers the societal boundaries that have been the biggest challenge in their inclusion. Our research is, hence, significant from both information systems and inclusion research perspective as it contributes to the theoretical understanding of the impact of digital platforms on breaking societal structures.

Keywords: Digital platforms, Affordance theory, Mixed method study, Social inclusion.

1 Introduction

According to Sharma et al. (2020), the digital platforms (DPs) platforms are expected to capture approx. US$10 trillion in global value in the coming decade. The proliferation of these DPs has also facilitated on-demand work or short-term gigs. Some scholars have referred to the rise of these gigs prevalent today as the gig economy, which comprises 16% of workforce in the USA (Yildirmaz, Goldar, & Klein, 2020).

On demand work apps (ODWA) are a specialized form of DPs that provide services in IT services segment as well as traditional blue-collar segments such as mobility, parcel collection and delivery and labor/workforce provision (van der Burg, et al., 2019). Since emerging economies such as India have high number of disadvantaged individuals (Jha, Pinsonneault, & Dubé, 2016), the ODWA have the capability to help them get into mainstream economy by generating employment. According to Augustinraj (2021), in the long term, the gig economy will make up almost 90 million jobs in India with over USD 250 billion in volume of work contributing 1.25 percent incrementally to India's GDP.

Given the rising footprint of ODWA in India, it is natural to think of the impact they have on one of the most socially disadvantages members of workforce i.e. marginalized women. Women are primary unpaid workers in a household in most developing economies. According to Time to Care report, women spend 3.26 billion hours on unpaid care work every day equivalent to around $260 billion a year contribution to the Indian economy (Coffey, et al., 2020). In this environment, it is imperative for policy makers to not only improve education levels of females, but also to provide sustainable employment as they have to manage these unpaid work responsibilities with informal work which is exploitative and exacerbates their marginality (Coffey et al., 2020). ODWA could then be a vehicle for change for them.

The current literature on gig economy primarily focuses on the power of digital platforms in the way of disruptions in labour market, lowering autonomy and greater control (algorithmic control), opaqueness of management and curtailing collective bargaining to name a few (De Stefano, 2016; Dillahunt, et al., 2016; Wood, et al., 2018). However, instead of merely imitating the research discourse typically adopted by western countries on the precariousness of gig work, it is perspicacious to examine the impact of gig economy by being more situated in the socio economic context of a developing country (Elbanna & Idowu, 2021; Prabhat et al., 2019). Kalleberg (2009) defined precarious work as "*uncertain, unpredictable, and risky from the point of view of the worke*r". Consequently, it is imperative to understand this new form of work from "point of view" of workers and their experiences with the ODWA. Elbanna et al. (2021) cautioned against reproducing the Western perspective in a developing country setting without considering the social and economic peculiarities of those who are excluded and marginalised and thus moving beyond the epistemological terra nullius.

With our aim of surmounting this theoretical short-sightedness in mind, this study is answering the questions of: *What impact does the association with ODWA have on the low socio-economic class women?*

To address this research question, we conducted in depth mixed method research in India to highlight the narratives away from the current dominating western rhetoric. India has a huge population with more than 12 million youth between 15 and 29 years of age expected to enter India's working age population whereas only 2.3 percent of India's workforce has received some formal skills training (The World Bank, 2017). In fact, (National Career Service, 2022) lists 1,34,90,504 active job seekers compared to only 1,56,099 active vacancies. With these challenges coupled with a hugely unorganized, informal sector without any wage guarantee or workers' benefits, and societal and structural gaps in access to employment or decent work, the government views the ODWA gig economy as an opportunity (Prabhat et al., 2019).

2 Research Background and Literature Review

To dive deeper into the research question, we focus on two major streams of literature- on ODWA and on IS for women's economic inclusion, followed by background of the theoretical lens employed in this paper.

2.1 On Demand Work Applications (ODWA)

ODWA employing blue-collar labour has the effect of formalization of the hitherto informal sector and could accelerate financial inclusion of marginalized people by increasing usage of bank accounts and digital payments(Hunt & Samman, 2019). These algorithm driven platforms help in reducing the anxiety of disadvantaged groups by greater systematisation of work and process automation such as in payments and information received through texts and app based notifications (Surie, 2017). This informal sector characterised by high unemployment, low wages and skill barriers in services such as ride hailing, beauty would then consider ODWA as marked improvement with more formal structure and organization (Surie, 2017). The on-demand services economy has grown tremendously in recent years but there is a dearth of literature on pertinent behavioural studies discussing effect this economy would have on existing society (Mitchell & Strader, 2018).

There are studies that examine the impact of ICT platform in poverty alleviation initiatives in rural India (Jha, et al., 2016) or government deployment of health information systems in Kenya (Bernardi, 2017). This indicates the burgeoning interest in research on ICT for development to improve the life and well-being of disadvantaged groups. However there has not been much work in exploring the impact of digital platforms especially the ODWA on the underprivileged citizens of developing countries. This study would be addressing that gap.

2.2 Women, Societal Disadvantages and Time Scarcity

Time scarcity is defined as lack of time to perform at your optimal leading to loss of bandwidth or attentional capture and time poverty (Bardasi & Wodon, 2010). It is a major issue for women, particularly in socially marginalized communities. There is gender and economic inequality due to unequal sharing of care work responsibility that leads to lower health and wellbeing of female workers and causes impediments in their economic prosperity. It leads to time scarcity for women (Mullainathan, 2013). It impedes the women's abilities to invest in their personal growth, maintain a social network, spend quality family time and participate in cultural and political activities (Greenhill & Wilson, 2006). This causes a dip in the feminine aspirations, impacting their future earnings and consequently accelerating future poverty.

They would settle for lower pay, worse prospects for advancement and poorer working conditions (Greenhill & Wilson, 2006) such as most part-time or home-based work including domestic maids, working as beauticians, food catering, etc. (Maloney, 2004). Such actions exacerbate their time scarcity as these low paying jobs would further constrain them on necessary economic and time resources creating the vicious scarcity loop (Mullainathan, 2013). In this study, we focus on these women in low socio-economic sections as they have to struggle to be gainfully employed due to their unpaid work responsibilities. Gender-technology interaction has been mostly on a backseat in IS research (Oreglia & Srinivasan, 2016).

Our review of literature indicates that there is a dearth of studies in the gender related area in IS, especially with respect to ODWA, even though the role of women is being recognised as gaining prominence as contributors to the economy. Our study is striving to analyze the impact of ODWA on women, having an increasing preference for flexibility, becoming a part of the workforce (Berger et al.,

2019). To understand their impact, we must understand their environment and the context of use (Lamb & Kling, 2003). To study this, we examine the affordances women thus derive from ODWA that would enable them to alleviate their income and time poverty.

2.3 Affordance Theory

Sein et al. (2016) proposed affordances theory as a lens for understanding the socio technical impact of ICT in development. Affordances refer to the actions or activities based on the material attributes of IS (Mettler, et al. 2017) involving both IT systems and organizational systems. The affordances are not atomistic but rather involve a network of human, social, and technical objects which when differently combined enable different levels of actions for its actors (Sein et al., 2016). Affordances as a concept is based on social practices of technology with respect to the cultural background of the user, their environment, experience and skills that are in relation to their use of technology and specific to that IT artefact (Fayard & Weeks, 2014). According to Leonardi and Vaast (2016), affordances or constraints are formulated by people's perception for an object's materiality and as they are relational between people and object's materiality, affordances can affect work in diverse ways. Thus, affordance lens is useful for explicating "why, how and when" new technologies affect individual's activities at work .

In the context of platforms, Pee (2018) defined affordances as relational between actors and materialities. Sutherland and Jarrahi (2018) discussed affordances of platform economy in tandem with users' capabilities and goals to understand the processes by which users appropriate and interpret IT artefacts. Thus, for our study, we can use this theoretical lens to understand what affordances the marginalized women derive from these ODWA.

3 Data and Method

We conduct the current study in two stages as a mixed-method study. The first stage of this is an exploratory analysis to discover the affordances and evolve a conceptual research model. We then followed it up with large-scale survey to validate the research model developed in stage 1.

We conducted 20 semi-structured interviews with women working with ODWA and belonging to primarily low socio-economic classes for the first stage. The interviews subjects were identified using snowball sampling technique as employed by Mettler and Wulf (2018). All the interviewees were made aware of the purpose of the study and assured anonymity of the responses. We employed open-ended questions to elicit detailed involvement of the ODWA professionals and their personal experiences with it that helped frame our affordances for the ODWA for these women. This process was carried on till theoretical saturation was achieved in generating new themes for affordances (Mettler & Wulf, 2018). The interview data was supplemented with extensive literature review and theoretical analysis.

We collected the data for the second stage through a survey of the service providers of Urban Company, the largest ODWA in India. The survey was conducted in January-February 2021 in 5 cities in India i.e. Delhi, Mumbai, Hyderabad, Bangalore, and Kolkata. Participants were assured of anonymity and confidentiality of their responses. After removing incomplete responses, we were left with n= 927 that formed the final sample size of our analysis. Our sample of n= 927 is all of the female gender as per the requirement of our study.

3.1 Interview Data Analysis

This is a thematic interview analysis. We followed the works of Lamb & Kling (2003); Nguyen, Tuunanen, Gardner, & Sheridan (2021); and Thapa & Sein (2017) to identify key themes in interviews. We applied thematic analysis (Braun & Clarke, 2006) to analyse our interview transcripts to capture

themes emerging from the data and conceptualise our key affordances and framework. We followed the relevant phases of thematic analysis including familiarising with data, creating initial codes, deriving themes, reviewing them and naming the themes (Braun & Clarke, 2006; Nguyen et al., 2021; Thapa & Sein, 2017).

As stated earlier, the objective of this stage of the thematic analysis was to elicit the affordances that women from low socio-economic sections derive from their participation in ODWAs and find the inter-relationships amongst them, if any. For a structured analysis of the data, we defer to the need-affordance-features framework proposed by Karahanna et al. (2018). We examine the affordances of the ODWA that we uncover through our interviews and attempt to connect them with the features offered by these ODWAs. We do not dive into the needs that drive the affordances in this study. Rather, we look at the affordances and how they are serviced through the features that the app has provided. Below we discuss the summary of our findings that indicates the affordances that women derive from the platform as well as the features that service these.

Affordance	**Code**	**Theoretical/ Literature support**	**Interview data**	**Feature providing the affordance**
Increasing earnings	ES	increased earnings - transition from blue collar (Huang, et al. 2020; Surie, 2017; Donovan et al., 2016)	" I have earned my own living and never depended on husband for money."	Flexible income option (F_COMM)
Generating visibility	MA	Rapid exchange of job requests and service delivery, reduced entry costs, simple user account creation and preferred scheduling (Kabeer N., 2012; Donovan et al., 2016)	"Account is easily created so able to join"	Easy account creation (F_EASA/C) and preferred scheduling (F_SCH)
Managing time	GB	Need for autonomy – SDT (Deci & Ryan, 2000). Scarcity theory (Mullainathan, 2013). Flexibility, autonomous request acceptance (Huang et al., 2020; Sutherland & Jarrahi, 2018).	"*Dil se*- I truly believe this is best option for women who have children to take care of and family responsibilities that you can earn also while at home."	Autonomous request acceptance (F_AUTREQ)
Risk management	PS	Risk mitigations and trust building - reputation and monitoring systems (Huang et al., 2020), help desk, complain registration, feedback of clients- rating and reviews of clients by other service professionals (Sutherland & Jarrahi, 2018)	"App has feature where we could raise an alarm if they found any problems at the client site by pressing a button on the app and the company will respond to their alarm."	GPS monitoring (F_GPS), help desk support (F_HLPDSK) and feedback (F_FBofCL) and ratings of clients (F_RATofCL)
Accruing recognition	ID	Need for competence (Deci & Ryan, 2000). Ratings and reviews (Sutherland & Jarrahi, 2018).	"Started working at UC because needed "Pehchaan" - own identity."; "I want to carve my own niche in this world."	Ratings (F_Rat) and reviews (F_REW)

Table 1. Summary of literature and data support for affordances identified (see appendix for detailed interview excerpts for each affordance.**)**

We also found that these affordances were different for women with different years of experience or platform usage maturity with the ODWA. To quote from the interviews, one woman reported that when she joined the app initially it would be:

"To keep myself productive while taking care of family" but now it was more for "contributing to family income since husband lost his job".

Through the stages of data collection, a recurrent theme of "identity", "purpose" were uncovered. This leads us to a conclusion that the adoption of these ODWA by these women is leading to a substantial change in their life outcome. With their growing usage of the ODWA, the perceived affordances would then lead the women to realize new intentions that could be achieved through the material features of the ODWA technology (Leonardi, 2011; Mettler et al., 2017). Based on the exploratory data that our interviews and literature analysis provided us, we propose that the features of the ODWA provide these women with certain affordances that impacts their life satisfaction. Life satisfaction encompasses happiness which they would realize from reduced time scarcity and better bandwidth to manage both paid and unpaid work responsibilities due to the affordances of the app.

Figure 1. Research framework in the study

3.2 Empirical Model Validation

In second stage of our study, we conducted an empirical analysis of the model framed during our exploratory study in the first stage as depicted in Figure 1.

3.2.1 Survey instrument

We employed existing scales to measure the affordances that we identified in the stage 1 of our research. We translated the English-language scale into two regional Indian languages- Hindi and Telugu, which were better understood by the respondent demographic. Some constructs were used as an amalgamation of items in scales similar to approach by (Köse et al., 2019).

The independent variables identified during the interviews were the various features of ODWA discussed earlier. We then created items for each feature for our quantitative survey and asked the respondents to rate them on a 7 point Likert scale ranging from Not Important at all - Very Important. We conducted expert opinion for our scales to establish their content and face validity. Each item in our survey was rated by an expert panel of judges (Hardesty & Bearden, 2004)- a mix of academics, research scholars and practioners and company representatives.

We also examine the moderator- Platform Maturity Usage Level (PMUL) that interacts with how the affordances impact life satisfaction. We observed that different affordances are more important at different PMUL and lead to change in life satisfaction.

3.2.2 Result and Analysis

We use SmartPLS to analyse the data in two steps- evaluating the measurement model and the structural model (Benitez et al., 2020; Hair, Risher, & Sarstedt, 2019).

3.2.3 Measurement Model

Indicator reliability is assessed through indicators' loadings which is generally above .70 (Benitez et al., 2020; Hair et al., 2019), but for exploratory research 0.50 is acceptable. We use composite reliability as the items are weighted based on individual loadings of the constructs' indicators unlike Cronbach's alpha (Hair et al., 2019). Convergent validity is measured by average variance extracted (AVE) of at least 0.5 (Hair et al., 2019). We dropped the items with low loadings as suggested in extant research.

Construct	Items	Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Features for Increasing earnings (F_ES)	F_COMM	1	1	1	**1**
Features for Managing time (F_GB)	F_AUTREQ	1	1	1	**1**
Features for Accruing recognition (F_ID)	F_REW	0.926			
	F_Rat	0.882	0.78	0.9	**0.818**
Features for Generating visibility (F_MA)	F_EASA/C	0.901			
	F_SCH	0.736	0.54	0.806	**0.677**
Features for Personal Security (F_PS)	F_FBofCL	0.824			
	F_GPS	0.704	0.728	0.83	**0.552**
	F_HLPDSK	0.667			
	F_RATofCL	0.768			
Increasing earnings (ES)	ES1	0.801			
	ES2	0.811	0.84	0.893	**0.676**
	ES3	0.844			
	ES4	0.831			
Managing time (GB)	GB1	0.797			
	GB3	0.85	0.755	0.845	**0.581**
	GB4	0.786			
	GB5	0.589			
Accruing recognition (ID)	ID1	0.871			
	ID3	0.877	0.81	0.888	**0.726**
	ID4	0.806			
Generating visibility (MA)	MA1	0.881			
	MA2	0.926	0.78	0.9	**0.818**

Risk management (PS)	PS1	0.926			
	PS2	0.859	0.753	0.888	**0.798**
Life Satisfaction (LS)	LS_HP1	0.642			
	LS_HP2	0.663			
	LS_WS1	0.62			
	LS_WS2	0.766	0.837	0.878	**0.51**
	LS_WS3	0.823			
	LS_WS4	0.795			
	LS_WS5	0.661			

Table 2. Results of Confirmatory Factor Analysis

We then check for discriminant validity using cross-loadings (Fornell & Larcker, 1981; Hair et al., 2019). We also use HTMT as a more reliable empirical evidence for discriminant validity (Benitez et al., 2020; Henseler, Ringle, & Sarstedt, 2015; Hair et al., 2019).

3.2.4 Assessment of the Structural Model

We run Bootstrapping with 5,000 resamples (Henseler et al., 2015). Our model has an SRMR score of acceptable 0.064. We checked that all the constructs were having VIF below 3 (Hair et al., 2019). Since collinearity is not found in our study, we examined R2 value which measures the model's explanatory power (Benitez et al., 2020). In our model, the R^2 values of all the five affordances is being explained adequately while the R2 value of dependent variable life satisfaction is 0.379. There is medium predictive relevance of endogenous variables measured using Stone-Geisser's Q2 value at 0.192 (Hair et al., 2019). These assessment results demonstrated the validity of our structural model.

3.2.5 Results of path coefficients tests

All the paths of our model from features to affordances are significant except for managing time (GB) features (autonomous request acceptance) that do not have significant effect on GB affordance. However, GB affordance is impacted by generating visibility (MA) features (easy account creation and preferred scheduling) that enable greater flexibility and better earning opportunities improving bandwidth for women (Huang, et al, 2020). We also examined if identity features (ratings and reviews from clients), were impacting economic security affordance and they were significant. This finds support in our interviews - women reported that with better ratings and reviews, they were elevated to Prime category of the ODWA which was higher than the Classic category. This increased their earnings as they were able to access premium clients and service packages.

Another non-significant path coefficient is from risk management affordance to life satisfaction. Plausibly, they consider personal safety as a basic infrastructural requirement and other affordances are more important for them to improve their life satisfaction. The other affordances are having significant effect on the dependent variable of life satisfaction.

Path Coefficient or Comparison	**t-statistic**	**Path Significance (Y/N)**
$\beta_{ES \rightarrow LS} = 0.473$	7.341	Y

$\beta_{F\_ES \rightarrow ES} = 0.197$	5.434	Y
$\beta_{F\_GB \rightarrow GB} = 0.061$	1.755	N
$\beta_{F\_ID \rightarrow ES} = 0.204$	5.383	Y
$\beta_{F\_ID \rightarrow ID} = 0.217$	5.715	Y
$\beta_{F\_MA \rightarrow GB} = 0.275$	6.857	Y
$\beta_{F\_MA \rightarrow MA} = 0.268$	8.04	Y
$\beta_{F\_PS \rightarrow PS} = 0.269$	7.91	Y
$\beta_{GB \rightarrow LS} = 0.16$	2.97	Y
$\beta_{ID \rightarrow LS} = -0.15$	2.065	Y
$\beta_{MA \rightarrow LS} = 0.154$	2.6	Y
$\beta_{PS \rightarrow LS} = 0.006$	0.112	N

Table 3. Path Coefficients

3.2.6 Moderation Analysis

We apply the PLS- MGA multi group analysis for our categorical variable, platform usage level (PMUL) with two groups: higher experience and lower experience. We examine its moderating effect on the relationship between affordances and life satisfaction comparing women with less than 3 years' to women with greater than or equal to 3 years' experience with the ODWA. We performed MICOM procedure (Henseler et al., 2016) and were able to establish partial measurement invariance. We could then use standardized coefficients of the structural model for comparison across our groups created with PMUL variable (Schuetz et al., 2020; Henseler, 2011). We conducted bootstrapping with 5,000 samples (Hair, et al., 2017) for the two groups.

The model for the lower experience group had R^2 of 0.428 and that of higher experience had R^2 of 0.340 with the SRMR at 0.066 and 0.072 respectively, indicating good fit. We analyse the results of PLS-MGA to ascertain the effect of experience with the ODWA on the core relationships in our model and found that the relationship between accruing recognition (ID) affordance to life satisfaction (LS) is significant at the $p < 0.05$ level in the lower experience group with p-value 0.001 but not the other group. The difference between the two groups is significant (p=0.034) for this relationship for women having experience of working with the ODWA for less than 3 years and not after that. The effect size is also negative (-0.272) for lower experience group which actually is contrary to our understanding.

Another relationship affected by experience with the ODWA is generating visibility (MA) to life satisfaction (LS) (p= 0.004) in the lower experience group but not the other group. This signifies difference been the two groups significant at p value of 0.068 at 90% confidence level for this relationship for women having lower experience and not after that. The effect size(0.222) for lower experience group shows that MA affordance increases life satisfaction for women as discussed.

4 Discussion and Implication

We found that all the paths in our model for features to affordances were significant except managing time features (autonomous request acceptance). In fact, the features of generating visibility engendered

managing time affordance as it leads to greater flexibility and improved earnings that has the effect of increasing the bandwidth for women.

In our multi group analysis, for the relationship accruing recognition affordance to life satisfaction, the lower experience group exhibited significant (but negative) effect but not the higher experience group, thus validating the moderation effect. At lower experience, accruing recognition has the effect of deteriorating life satisfaction and at higher experience it is enhancing life satisfaction. This could be because in the nascent career stages, women are unable to balance their new found sense of identity (from working with ODWA) with their unpaid responsibilities and family expectations. According to Risman, Atkinson, and Blackwelder (1999), woman's sense of identity was affected by the strategies they used to juggle family and paid work and working conditions of their job such as flexible work arrangements, family-friendly policies, and supervisor support (Raskin, 2006). This problem is exacerbated for women from low SEC already suffering from time scarcity coupled with financial poverty. This could be resulting in greater unrest at home deteriorating happiness and consequently life satisfaction and hence the negative effect. But with higher experience, the effect of accruing recognition has in fact to increase life satisfaction(0.056) which could imply that the women are now able to balance their family's needs and their sense of identity, increasing their life satisfaction.

We also found that initially women have greater life satisfaction due to improved market access thus generating visibility. This would be mainly because when women join the platform initially, the ODWA engenders rapid exchange of job requests and service delivery and workers' access to job pool (Donovan et al., 2016; Huang et al., 2020). Low entry barriers in ODWA due to easy account creation reducing entry costs for workers enables faster participation in market and greater flexibility in work hours and scheduling (Donovan et al., 2016; Huang et al., 2020) improving their life satisfaction. With higher experience, life satisfaction of women is improving but the utility of generating visibility affordance is lesser. This is probably due to diminishing marginal utility phenomenon which can be an interesting question for future research.

4.1 Implications for Theory

There is a need for research on whether ODWA catering to blue collar demand are enabling or are rather manipulating societal objectives. We identify affordances that were paramount to women for the various features of the ODWA based on interviews as well as extant literature. We found support for our model from the scarcity theory (Mullainathan, 2013) that posits bandwidth attenuation for people with time scarcity. We demonstrate time scarcity for marginalised women being alleviated by flexible work at the ODWA engendering bandwidth expansion along with improved economic security and identity for the women. We were thus able to bring in the BDT literature in our study of this IS phenomenon. We also extended self-determination theory (SDT) (Deci & Ryan, 2000) to study affordances furnished to these women.

Theoretically we build upon the works of Karahanna et al. (2018) and Knote et al. (2020) to identify features that provide affordances to the participating women from low-socio-economic class to improve their life through higher social inclusion. We bring in platform maturity usage level variable to examine the change in affordances over time augmenting the study of imbrications in routines (Leonardi, 2011). Thus, this study will facilitate further expansion of a cumulative body of knowledge in the affordances- in- IS literature domain.

4.2 Implications for Practice

With unpaid work and time scarcity of women being a growing issue concerning policymakers world over, it's becoming imperative to examine whether digital technology is a panacea. This study provides a comprehensive understanding of the ramifications of technology on its focal beneficiaries to the policy makers and technical designers of these initiatives. The study is of relevance for the policy

makers to leverage IS as a solution for social issues with our model adding to the understanding of human technology interaction in the social inclusion domain. As per Sheth (2020), Urban Company has tied up with National Skill Development Corporation (NSDC) of India to mobilise, train and certify service professionals. Our study on the ODWA can be applicable to benefit similar initiatives enabling policy makers to encourage and build a greater eco system for digital technology to fructify the societal and development goals of the country. The study also has relevance for app designers to incorporate features serving the most germane social objectives of the technology that they are offering.

5 Limitations and Conclusion

Future research needs to be conducted in similar technology enabled platforms and human interaction domain for uncovering a greater set of features and affordances, as our study was not an exhaustive list of all of the possible combinations.

Also, we examined the impact of all the affordances on life satisfaction but it can further be examined if all other affordances are in fact impacting managing time affordance which would then affect life satisfaction. This would be instrumental in strengthening our theory base of behavioural literature on scarcity (Mullainathan, 2013).

In conclusion, unpaid work and time scarcity have emerged as the developmental issues that are of concern to societies around the world, in their strive to expediate inclusion of marginalised women. It becomes more so a concern for emerging economies that want to improve contribution to the economy for all the sections of the society. Our study therefore strives to address this grand challenge of unpaid work and to examine ODWAs as an enabler for women employed in a largely informal economy.

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APPENDIX:
Table A: Interview excerpts for each affordance

Affordance	**Code**	**Interview data**
Increasing earnings	ES	"I have earned my own living and never depended on husband for money."; "In this generation, both husband wife have to earn"; "Getting better salary sitting at home"; "Payment is very good, better than salon."; "Good payment so no need to do other jobs for more money."; "Get money in hand, no need to wait for salary."
Generating visibility	MA	"Account is easily created so able to join"; "Appointment system on app is there- systematic."; "In salons there is no break while on the app we can select our holidays"; "I am able to access better clientele."
Managing time	GB	"*Dil se*- I truly believe this is best option for women who have children to take care of and family responsibilities that you can earn also while at home."; "For housewife there is flexibility and get money by working even only for couple of hours."; "Indian lady has to manage both home and job.'; "Can't spend whole day in parlor working as I have to do utensils, cook, manage my kids."
Risk management	PS	"App has feature where we could raise an alarm if they found any problems at the client site by pressing a button on the app and the company will respond to their alarm."; "If the watchman is not allowing me in the building, the helpline helps me to connect with customer or explains to watchman." ; "In salons, I have to service clients with allergies also, but here we can call helpline if we are not comfortable with the customer."; "The client was rude. The helpdesk understood my issue and told me to leave and they returned the client's money."
Accruing recognition	ID	"Started working at UC because needed "Pehchaan" - own identity."; "I want to carve my own niche in this world."; "I can leave my husband also and manage on my own."; "Its all upto me to get good customers on the app. In salon, the salon has to get customers, its not upto the beautician."; "Good reviewsare important as they help get more customers."