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Sudarshana Jha

E-mail: editor@jmpp.in,
sudarshana.jha@jmpp.in

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Editorial

Corporate–NGO Collaboration for Course Correction on Climate

Madhukar Vatsa *

ABSTRACT

Urgency regarding immediate concerted efforts to checkmate the looming climate crisis has been widely acknowledged by leaders of all hues across the world. Already, the governments of the world are committed to the Sustainable Development Goals (SDGs). However, attaining the SDGs by 2030 may not be possible without a strong collaboration between the corporate and the NGOs. This article tries to examine the imperatives for Corporate–NGOs collaborations and how they can effectively contribute towards climate action to protect the earth from vagaries of nature caused by phenomenal industrialization, urbanization, and consumerism. It makes sense that the corporations join hands with the NGOs when both are pursuing the same SDGs in the best interest of humanity.

KEYWORDS: Sustainable Development Goals (SDGs), Climate Action, Corporations, NGOs

“Climate change is real. It is happening right now; it is the most urgent threat facing our entire species and we need to work collectively together and stop procrastinating.”

–Leonardo Di Caprio, Actor & Environmentalist

*Assistant Editor (Research), Journal of Management & Public Policy (JMPP)

E-mail: madhukar.vatsa@jmpp.in

The emerging scenario vis-à-vis global warming and climate change is quite dreadful. The earth's greenhouse gas concentration has already reached an all-time high i.e., more than 50% higher than the pre-industrial era a couple of years back (Toffel, 2023). Hence, the mandate is clear –all the stakeholders need to combine before it is too late for us to save the earth. Moreover, the corporations and NGOs need to work in tandem for greater good. The combined strength of corporations and NGOs can support the efforts of the governments and communities in mitigating climate change and global warming. It is a matter of great relief that firms are progressively acknowledging their own need to get involved in the struggle against climate change — and quite often, strategic partnerships are proving key to making these goals become an attainable reality (Vitasek, 2023).

True, climate action by corporations is no longer limited to compliances and public relations. Corporations are now keen to contribute significantly towards Sustainable Development Goals (SDGs). On the other hand, the Non-Governmental Organizations (NGOs) have been involved in promoting SDGs at several levels. Hence, if the corporations join hands with the NGOs, the results on their climate action endeavors are likely to be phenomenal. They can work together to change the traditional paradigm of production and consumption of power by developing a more sustainable ecosystem for clean energy, especially in developing and underdeveloped countries. At the same time, the corporations can help the NGOs in ushering technological transformation in the farm sector to minimize wastages of all sorts and augmenting yield productivity. In fact, corporations and NGOs can collaborate to foster a sustainable supply-chain ecosystem to improve the carbon footprints of all the stakeholders.

Involvement of NGOs alongside the corporations in climate action can result in intervention strategies in sync with the needs of the local communities as also the constraints faced by various stakeholders. Collaboration between the corporations and the NGOs is also bound to promote a long-term perspective on climate action. It is possible that the corporations miss out on the bigger picture due to their inherent profit orientation and year-on-year focus on financial parameters. On the other hand, NGOs generally suffer from lack of technological competencies, financial resources, and professionalism. However, their combination can deliver on the promise of climate action in the long run. Public–Private Partnerships have

already demonstrated results in the infrastructure sector. New alignment between the corporations and the NGOs can attain similar distinctions.

There are several success stories to prove the point. For example, Essent, a Netherlands-based energy company joined hands with Worldwide Fund for Nature (WWF) as early as 1995 (Brouwer, 2013). Zomalabs, a venture capital firm has collaborated with The Nature Conservancy, the Pew Charitable Trusts, and WWF to create 'Enduring Earth' which runs Project Finance for Permanence (PFP) initiatives with a challenging goal to protect 600 million hectares by 2030. So far, they have been able to cover 120 million hectares across six countries. American Airlines, ArcelorMittal, Bank of America, BMO Financial Group, Boston Consulting Group, Builders Vision, Citi, General Motors, HSBC, Microsoft, Mitsubishi Corporation, The BlackRock Foundation, and IKEA Foundation have come together to promote funding for sustainable technologies via Breakthrough Energy Catalysts. Likewise, Tropical Forest Alliance is supported by various corporations with a noble purpose of fostering deforestation-free supply-chain ecosystems. Climate Finance Partnership, supported by a few corporations, provides funding for climate change mitigation, especially in the emerging markets. Charitable organizations linked to various corporations like Barr Foundation, Ikea Foundation, Gates Ventures, Heising-Simons Foundation, and Davide Lucile and Packard Foundation among others have come together to promote Clean Cooling Collaborative which works towards ensuring sustainable cooling for all. Furthermore, food major Danone has collaborated with Environmental Defense Fund (EDF) to promote less carbon-intensive farming methods (Toffel, 2023).

It goes without saying that corporations and NGOs have a shared interest in the preservation of nature (Brouwer, 2013). NGOs and nonprofits can serve as valuable partners by helping to identify the most urgent environmental issues, whether at a regional or global scale (Vitasek, 2023). Further, responsible use of natural resources by corporations ensures a regular supply of important materials in the supply-chain ecosystems which makes it even more critical for the corporations to contribute towards maintaining a reasonable level of biodiversity in the regions where they operate. As such, the corporations need to be more responsive towards primary stakeholders in terms of better environmental performance

because of their direct financial relationship with them (Mitchell et al., 1997). Hence, both corporations and NGOs have vested interest in collaborative climate action (Pulver, 2018).

Success of green alliances between the corporations and NGOs would depend on well-thought-out strategic frameworks that can foster long-term collaborations with time-bound deliverables and commitments (Stafford et al., 2020). Hence, it is imperative that strategic green alliances are forged between corporations and NGOs, especially those working on environmental issues for mitigating climate change and global warming before the ultimate redemption lapses. The earth may collapse without any further warning and people may not have time to lament unless we listen to the wake-up call and initiate immediate course correction for climate mitigation through co-existential collaboration.

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Dyadic Coping as Predictor of Psychological Wellbeing in the Times of Social Isolation

Shweta Jha* and Alok Saklani**

ABSTRACT

Incidence of social isolation i.e., the state of being disconnected from social relationships, has increased significantly in the aftermath of Covid-19. In turn, the emerging phenomenon of social isolation across the world has impacted the interpersonal relations among married couples, among other consequences. This research studies dyadic coping and psychological wellbeing among married individuals in India and also explores whether dyadic coping strategies can predict psychological wellbeing of people afflicted by social isolation in the post-Covid-19 scenario. Results of the study indicate that dyadic coping predicts psychological wellbeing to a great extent. Among males, supportive dyadic coping impacts the psychological wellbeing while among females, common dyadic coping prominently predicts psychological wellbeing. All dimensions of dyadic coping have a significant correlation with psychological wellbeing except Negative Dyadic Coping by Oneself and Negative Dyadic Coping of the Partner, which do not seem to have any association with the latter.

KEYWORDS: Dyadic Coping, Psychological Well-being, Social Isolation, India

*Associate Professor, Apeejay School of Management, New Delhi, India

E-mail: shweta.jha@learn.apeejay.edu

**Adviser, Apeejay School of Management, New Delhi, India

E-mail: aloksaklani@yahoo.co.in

INTRODUCTION

High incidence of social isolation in the aftermath of Covid-19 across the world has affected the interpersonal relations among married couples, among other consequences. In the Indian context, it is likely to be more pronounced because of unique cultural settings characterized by masculinity and power distance. Generally speaking, Indian couples communicate in a manner that both the partners are expected to absorb and truthfully understand the messages which have been transferred with few utterances (Sabharwal, 2020). Such a bizarre communication pattern where open, free and heart to heart conversations seldom take place among the partners in many families (though it is changing somewhat with generation Y, at least in the larger towns/cities), often makes it difficult for either of them to cope with crisis scenarios.

On the other hand, a free and fair conversation, without any inhibitions, is undoubtedly a hallmark of dyadic coping strategy especially in times of crisis like the one induced by Covid19. It can help both the partners achieve psychological wellbeing and survive the worst of the times. Interestingly, lockdown clamped to contain the spread of Covid-19 pandemic has enabled several people in dyadic relationships to rediscover themselves and learn to accept as well as adapt (Sabharwal, 2020)

Indeed, coping strategies are responses to a stress in an individual's life. It refers to the reaction or efforts which individuals make to "master, reduce or tolerate demands arising out of stress" (Dunn et al., 2011). Talking, caring and sharing, joint problem solving, delegating or assuming responsibilities, sulking and concealment are some of the responses that people exhibit during crises. In marital relationships, the spouses exchange similar responses while facing any crisis situation. Dyadic Coping (DC) comprises the anxiety gestures of one spouse, the stated or unstated coping reactions of the other spouse, and shared coping efforts, and includes both constructive and adverse elements (Bodenmann, 2005). DC strategies entail the coping patterns of each dyad in the relationship aimed at increasing well-being of individuals and his/her marital relationship (Coyne & Smith, 1991, Bryan, et al., 2008). Further, dyadic stress affecting both the partners may trigger DC which could either be positive, i.e. common, delegated or positive supportive or negative, i.e. hostile, ambivalent, or superficial (Revenson, Kayser, Bodenmann, 2005).

Coping strategies have been linked to increased Psychological Well-Being (PWB) while avoidance of coping has often resulted in higher degree of psychological distress (Gustems-Carnicer, Calder'on, 2013). Moreover, DC is imperative for the well-being of individuals staying in close relationships (Bodenmann, Meuwly, Kayser, 2011). Several other studies have also indicated a relationship between DC and upper level of marital quality, lower level of stress experience and better physical and psychological well-being (Bodenmann, 2005; Berg et al., 2008; Wunderer & Schneewind, 2008). Often, DC strategies augment an individual's satisfaction with quality of conjugal bond, which in turn can result in PWB. A number of scholars have explored the link between DC strategy and quality of marital relationship as well as satisfaction with the marital relationship (see Bodenmann, Meuwly, Kayser, 2011; Merz, et al., 2014, Naruse and Moss, 2019; Martos et al., 2021).

It is true that not many researches are available on impact of dyadic coping on psychological wellbeing as such. Dyadic coping itself has emerged as an area of research in the last three decades. Earlier, the scholars viewed the coping as an 'individual response' to an 'individual stressor'. However, in early 1990s, when the economies opened up all over the world, females started joining the workforce in a big way, thereby creating new kinds of stressors which afflicted both the partners due to work-life imbalance and role conflicts issues. The scenario has worsened further over the period due to gradual disintegration of the joint family system. Thus 'individual stressors' not only torments one person in the marital relationship but also affected the other partner. Simultaneously, individual responses to other partner's woes also result in either improvement or deterioration of the quality of marital relationships and concomitant life satisfaction. Lazarus and Folkman (1984) advanced the concept of relational context to explain the significance of reciprocal influential processes in coping with stressful situations affecting two individuals in marital relationship. This triggered a series of researches to explore dyadic coping strategies and their impact on quality of marital relationships and other direct or indirect consequences.

PREVIOUS RESEARCH

Dyadic Coping

Dyadic Coping Routine traumata and afflictions trigger conflicts in the marital dyads. It is even more pronounced during crisis situations like job losses and serious illnesses in particular or

economic slowdown and pandemic in general. It is possible that one or both the partners experience a low feeling of intimacy and diminution of emotion sharing and upturn in withdrawal behaviour which may adversely affect the quality of communication between the marital dyads. At the same time, such depressing situations may alternately trigger positive responses wherein the partners exhibit striking intimacy and initiative towards joint problem solving as well as taking up part of the responsibility of each other.

A few DC models have evolved over time. According to Coyne & Smith (1991), each partner of the marital dyad gets involved in single and joint coping practices to defend and handle the relationship during stressful or crisis situations. On the other hand, Revenson's (1994) model is based on the congruence or discrepancy of couples' coping strategies. This is considered a weak model because partners are treated as individual units of analysis thereby ignoring the dyadic pulls and pushes in any marital relationship (Falconier, et al., 2015).

Systemic Transactional Model propounded by Bodenmann (1995) revolves around mutual communication of stress, support provided by each member of the marital dyad, and joint strategies used to cope with common stressors. Further, DC can be positive by way of stress communication and negative in terms of hostility triggered by stressful situations (Bodenmann, 1995). Falconier, et al. (2015) have observed that positive DC results in homeostasis for the partners while negative DC leads to drop in judicious adaptation to a stressor (Falconier et al., 2015). In the Developmental-Contextual Coping Model, DC is the preliminary coping conduit used by partners while handling a lingering stressor (Berg & Upchurch, 2007).

Bodenmann (1997, 2005) has classified different forms of DC as common dyadic coping (CDC) (efforts by the spouses during crisis), supportive coping (care from one spouse toward the other when only one of them is affected during crisis situation), delegated coping (one spouse deliberately handles problem-solving so that the other spouse can be comforted during crisis). Furthermore, diverse forms of dyadic coping can be characterized as feeling-oriented or issue-oriented and constructive or damaging in nature. Negative dyadic coping (NDC) can be exhibited in terms of hostility towards each other, i.e. being offensive, impertinent,

contemptuous; indecisive reactions e.g. tentative, regretful or superficial reactions such as being slender and perfidious (Bodenmann, 1997, 2005).

Psychological Wellbeing

On a macro level, well-being is related to happiness, life satisfaction, and self-growth. In his classical research, Bradburn, (1969) used the concept of positive and negative affect to explain wellbeing. Shin and Johnson (1978) defined wellbeing as a 'global assessment of a person's quality of life according to his/her own chosen criteria'. Ryff (1989) advanced six factor model of wellbeing viz. autonomy, environmental mastery, personal growth, purpose in life, positive relations with others and self-acceptance. Further, Diener & Suh (1997) defined subjective wellbeing as consisting of three interrelated components: life satisfaction, pleasant affect, and unpleasant affect. They referred affect to pleasant and unpleasant moods and emotions, and life satisfaction to a cognitive sense of satisfaction with life. Further, Shah and Marks (2004) viewed wellbeing to be more than just happiness, as was earlier defined by many scholars and psychologists. They described wellbeing as 'means developing as a person, being fulfilled, and making a contribution to the community.' Going a step further Dodge et al. (2012), postulated that wellbeing might be characterized by the equilibrium point between an individual's resource pool and the challenges faced. So far, six-factor model propounded by Ryff (1989) remains the most comprehensive and widely used tool for the study of psychological wellbeing.

Marriage, Dyadic Coping and Psychological Wellbeing

Disintegration of the joint family system and rise of nuclear families in India has put tremendous pressures on Indian couples. Recent spread of Covid-19 pandemic has further strained the families. Thus, PWB of both the partners in marital dyads is at risk in the emerging scenario. Such a distressful situation can be mitigated or further aggravated by DC strategies adopted by one or the other partner. In fact, DC in couples was found to be clearly and meaningfully connected with improved conjugal bonding; a more sympathetic bond and a lesser hazard of separation (Bodenmann, Pihet, & Kayser, 2006).

Studies reveal that although PWB refers to an internal state of an individual, it is aggravated by outlying factors like economic stability, interactive and intimate conjugal bonding, and

apparent community backing (Bolarfinwa, 2011). Thus, how the partners act, react and interact with each other in marital dyad certainly has a bearing on their PWB. Marital relations can also augment sentiments triggering a sense of belonging, which may help in improving mental health (House et al., 1988). Kim and McKenry (2002) have observed strong effects of marital status on PWB. On the other hand, absence of a cordial dyadic relationship may invariably affect PWB of both the partners. Even Dush, Taylor, & Kroeger (2008) observed that the level of PWB was stumpy in case of truncated marital happiness.

Dyadic Coping Strategy and Psychological Wellbeing

Even as several scholars have examined the impact of DC on management of internal or external stress, improvement in quality of relationship, mutual influence on the partners, relational resilience, psychological adjustment to chronic stress, relationship functioning, relationship stability, relationship satisfaction, life satisfaction, and individual well-being of the partners (Bodenmann and Cina, 2006; Bodenmann, et al. 2011; Herzberg, 2011; Levesque et al., 2014; Merz, et al., 2014; Falconier et al. 2015; Gasbarrini, et al. 2015; Rusu et al. 2015; Staff, et al., 2017; Aydogan and Ozbay, 2018), researches on the impact of DC on PWB are scarce.

OBJECTIVES OF THE STUDY

Considering the need to determine the impact of Dyadic Coping on wellbeing, as also, the fact that no researches are available in the context of the Indian society, the present study has been carried out. The subject becomes even more interesting in times of Covid19 when families are not only faced by a common external threat but are also trying to cope with other stressors in terms of pay reductions or even job losses besides being restricted to the boundaries of their four walls, with nowhere to go and having only each other to find ways to deal with the unique situation.

Stressors are referred to being dyadic only when both the partners have been exposed to the same stress (Bodenmann, 1995). Thus, dyadic coping not only helps to reduce stress of partners but also helps maintain good quality of relationship (Lameiras et al. 2018). It was also observed that “adequate dyadic coping may improve relationship functioning, while dysfunctional dyadic coping may impede relationship functioning” (Traa et al., 2014). Dyadic

relationship functioning has been found to further affect well-being of the partners in a few studies (Shipova, 2019; Martos, 2019). Hence, it is proposed:

H1: Dyadic coping strategy enhances psychological well-being among the partners in marital dyads.

While, as indicated above, dyadic coping has been found to raise wellbeing perceptions, scant research is available on how various factors of the latter are affected individually (Falconier et.al 2016). Autonomy is an important dimension of psychological wellbeing. Self-Determination theory defines autonomy as “actions which are volitional, for which people feel a full sense of choice and endorsement of an activity” (Deci & Ryan, 2008). A study on young adults revealed that presence of high degree of autonomy in individuals resulted in seeking more emotional support from one’s partner (Lynch M.F., 2013). Interestingly, in one of the researches, autonomy was observed to be related significantly yet indirectly via dyadic coping, with relationship satisfaction (Lefthand M, 2019). However, enough research on how much does dyadic coping impact autonomy as an individual factor, is not available. Thus,

H2a: Dyadic coping affects autonomy in partners in marital dyads.

Positive relation is another critical dimension of psychological wellbeing. A correlation has been observed in many studies between the level and quality of dyadic coping of couples and their degree of psychological well-being and quality of their relationship, for instance marital quality, psychological disorders, etc. (Meier, 2011). Further a study on heterosexual couples reflected that the individual’s own relationship satisfaction increased with increase in his/her own dyadic coping strategies (Levesque, 2014). It is thus proposed that

H2 b: High dyadic coping results in higher positive relations

Dyadic coping basically deals with two dimensions: (a) an effort by an individual to minimize stress of his/her partner, (b) both partners working together as equals to handle stress caused by external environment that affects their relationship. High dyadic coping may enable the individuals to become aware of their own strengths and limitations during stress communication and mutual support opportunities. Furthermore, working together to tackle externally induced stress may boost the self-acceptance of individuals due to enhanced self-awareness as they might look for out of the box solutions to issues affecting them during crisis

by invoking skills and abilities hitherto unknown to them. It is not unusual for people to demonstrate unique skills and abilities during crisis. Successful mitigation of crisis situation through dyadic coping can thus result in high degree of self-acceptance. Hence it is proposed that

H2c: Dyadic coping impacts self-acceptance

Environmental mastery is the ability of the individuals to manage her/his life and surroundings (Ryff and Keyes, 1995). It is an important dimension of psychological wellbeing. Environmental mastery enhances life satisfaction during crises (Windle and Woods, 2004). Further, accommodative coping has been associated with environmental mastery (Seltzer et al. 2004). As such, dyadic coping is likely to enhance the environmental mastery because each partner in the marital dyad generally takes initiatives to reduce the stress of the other by way of stress communication and mutual support. Ability to take charge and mitigate the challenging scenarios faced by the couples invariably help augment their environmental mastery. Hence, it is proposed that

H2d: Dyadic coping affects environmental mastery

Purpose in life motivates the individuals to contribute towards augmenting happiness in the family and community through charitable gestures. It also enables the individuals to take critical decisions in life, set life goals and determine quality of inter-personal relations within and outside the family. In turn, dyadic coping is likely to help the individuals seek and develop purpose in life as a result of intense interpersonal relations, initiative by one of the partners to share workload, and mutual support in times of crisis. Thus, it is proposed that

H2e: Dyadic coping impacts purpose of life

It has been observed that both dyadic coping and personal growth may see an upward trend especially if the couple is facing or has faced a life-threatening crisis situation or disease like cancer (Künzler et al., 2014). Dyadic coping enables the partners to help each other through caring and sharing, stress communication, and mutual support, especially during crisis. These attributes may have a bearing on the personal growth of both the partners. Hence, it is proposed that

H2f: Dyadic coping results in higher personal growth

METHOD

In order to collect necessary data, a Dyadic Coping Inventory and a Well Being Scale (described below) were sent to several groups of people in social media (Facebook, messenger, & WhatsApp) of whom a total of 183 married Indians submitted the same, duly filled. A filter question was added in the questionnaire to ensure that only married individuals answered the questions. Purpose of the study and confidentiality of data was mentioned.

Research Instrument

Dyadic Coping Inventory (Bodenmann, 2008) and Ryff's Psychological Well-Being Scales (PWB) were used to measure Dyadic Coping & Well Being of the respondents. Besides, Demographic data were also collected, hence the questionnaire sought information regarding age, number of years of marriage, gender, level of education, place of work, and place of residence (Metro/ Non-Metro city).

Ryff's Psychological Well-Being Scales (PWB): A 42-item version of Ryff's Psychological well-being scale was used for measuring psychological well-being of participants. It is a six-point Likert scale ranging from 1= strongly disagree to 6= strongly agree. Psychological well-being is measured across six dimensions namely (a) autonomy, which measures the extent to which an individual is dependent or independent in making decisions and living his life; (b) environmental mastery, which measures the individual's ability to manage his own life; (c) personal growth which measures how well an individual is open to learning new things and realizes his potential; (d) positive relations with others, a dimension which measures the extent and quality of relationship an individual has with others; (e) purpose in life, a dimension which measures the extent to which an individual finds his life meaningful; and (f) self-acceptance, which measures the level to which an individual feels happy and good with his life and also has a positive attitude towards his past life.

Dyadic Coping Inventory (Bodenmann, 2008): This scale measures dyadic coping in two dimensions i.e. how people work towards reducing stress of their partner, and how couples work together to cope with stress caused by external factors, which affect their relationship. This 37-item scale measures the construct of dyadic coping in four parts: supportive, delegated, negative, and joint (common) dyadic coping. Supportive dyadic coping refers to

the partner providing problem and/or emotion-focussed assistance to his/her partner in coping. Negative dyadic coping refers to the hostile, ambivalent, and superficial activities/ words that have a toxic purpose. Joint (common) dyadic coping refers to both the partners working together to deal with stressful situation. This scale also measures stress communication and helps assess the quality of self-perceived dyadic coping. These dimensions are measured in a 5-point scale where 1= very rarely and 2= very often.

The number of people participating from non-metro cities (n=39) were higher than those participating from metro cities (n=144). Number of male and female participants were almost equal (males 93 and females being 90) in number. The average age of female participants was 38.7 years (SD= 8.92, range 21-59), whereas the mean age of male participants was 42.49 years (SD= 8.94, range 25-65). The average age of participants in metro cities was 40.56 years (SD= 9.14, rang 21-65), whereas the mean age of participants in non-metro cities was 40.92 years (SD = 9.07, range 26-57). The average years of marriage of male participants were 13.91 years (SD= 8.80) while that of females was 13.79 (SD= 11.07).

Educational qualification of participants varied from being doctorate to acquiring some professional degree. 28 % of male participants have Doctoral degree as compared to 32.2 % of females. 58% of males had completed their Master's or Post Graduation degree, 9.7 % were just graduates, and 4.3 % of males had some professional degree. On the other hand, 54% of females completed their Master's or Post Graduation degree, 6.7 % were Graduates and 6.7% of females had completed some professional degree.

Profession of both males and females were captured in the date. Majority of the participants served in private organizations (male 67.7%, female 61.1%) as compared to 13.3 % of females, 17.2 % of males in government organizations. 9.7 % of males had their own business, 3.2 % of them were freelancers, while 2.2 % of them were as of now, without a job. 11.1% of females had their own business, 2.2 were freelancers, 11.1 % of them were homemakers, while 1.1 % of them were looking for job.

FINDINGS

Dyadic Coping of Male and Female

Females (mean= 136.37, SD= 24.60) reported higher dyadic coping than males (mean= 125.86, SD= 22.44 (p= 0.003, t= 3.013, df= 180).

Table 1: Mean difference Between Dyadic Coping of Males and Females

Sample size	Mean Dyadic Coping Score for Males	Mean Dyadic Coping Score for Females	t value	P value (sig)
182	125.86	136.37	3.013	.003*

Dyadic Coping and Psychological Well-being

Correlation analyses between different dimensions of dyadic coping and the psychological well-being were carried out (Table 2). All dimensions of dyadic coping have a significant correlation ($p < .0$) with psychological well-being except negative dyadic coping by oneself (NDCO) and negative dyadic coping of the partner (NDCP), which do not seem to have any association with the latter.

Table 2: Correlation of Dyadic Coping Factors with Well being

Results	Supportive Dyadic Coping by Oneself (SDC)	Delegated Dyadic Coping by Oneself (DDCO)	Negative Dyadic Coping by Oneself (NDCO)	Stress Communication of the Partner (SCP)	Supportive Dyadic Coping of the Partner (SDCP)	Delegated Dyadic Coping of the Partner (DDCP)	Negative Dyadic Coping of the Partner (NDCP)	Common Dyadic Coping (CDC)
r co-efficient	.59	.45	.06	.46	.52	.37	-.05	.54
P value (sig)	.01	.01	-	.01	.01	.01	-	.01

Determinants of Well Being

Multiple backward regression was performed to ascertain the predictors of psychological wellbeing (among the various dimensions of dyadic coping). Supportive Dyadic Coping by oneself ($\beta = .362, p < .05$), Negative Dyadic Coping of the partner ($\beta = -.166, p < .05$), and Common Dyadic Coping ($\beta = .319, p < .05$) explained 39.4 % variance of variance in psychological wellbeing in the two genders taken together. The other dimensions of dyadic

coping did not predict psychological well-being significantly and hence were removed from this analysis.

Table 3: Dyadic Coping as Predictor of Well Being

	B	Std. Error	Beta
DV: PWB	.672	.079**	.534
R Square	.285		

**p < .01

Dyadic Coping and Well-being (Male & Female respondents)

Correlation analyses were also carried out between Dyadic coping and psychological wellbeing yielding a significant, moderate correlation coefficient of 0.53 (Table 4). The data was further split into the two genders to see if Dyadic Coping affects psychological well-being differently among males and females. A relatively stronger correlation was observed in males (r= .609, p < .01) as compared to females (r= .488, p < .01).

Table 4: Correlation between Dyadic Coping & Well Being

Sample	Independent variable	Dependent variable	r coefficient	P value (sig)
Entire sample	Dyadic coping	Psychological Wellbeing	.53	.01*
Male	Dyadic coping	Psychological Wellbeing	.61	.01*
Female	Dyadic coping	Psychological Wellbeing	.49	.01*

Multiple backward regression was further worked out to further understand whether predictors of wellbeing differed across male and female respondents. Among males, Supportive Dyadic Coping by oneself ($\beta=.528, p < .000$) and Common Dyadic Coping ($\beta=.216, p < .05$) explained 48.8 % of variance in psychological well-being. On the other hand, only Common Dyadic coping ($\beta=.480, p < .000$) in females could significantly predict 23.1 % variance in Psychological Well-being.

Table 5: Dyadic Coping Dimensions as A Predictor of Well Being (Multiple Regression Analyses)

	<u>Unstandardized Coefficients</u>		<u>Standardized Coefficients</u>	t	Sig.
	B	Std. Error	Beta		
DV: PWB					
Supportive Dyadic Coping by Oneself (SDC)	2.551	.632	.362**	4.035	.000
Negative Dyadic Coping of the Partner (NDCP)	-1.444	.538	-.166*	-2.684	.008
Common Dyadic Coping (CDC)	1.887	.549	.319*	3.435	.001
R Square	.394				

**Table 6a
Dyadic Coping Dimensions as A Predictor of Well Being (Male)**

	B	Std. Error	Beta
DV: Male's Total Psychological Well-being			
SDC	3.919	.799	.528**
CDC	1.456	.725	.216*
R Square	.488		

**Table 6b
Dyadic Coping Dimensions as A Predictor of Well Being (Female)**

	B	Std. Error	Beta
DV: Female's Total Psychological Well-being			
CDC	2.457	.481	.480**
R Square	.231		

Effects of Various Dimensions of Dyadic Coping on Individual Dimensions of Well Being

Data were further analysed to see how various dimensions of Well Being were affected by those of Dyadic Coping. It is interesting to note that only 4 among the 8 factors of Dyadic Coping affect the various dimensions of Well Being. Autonomy is impacted by SDC, NDCP & CDC (Table 7) with CDC having the greatest effect followed by SDC and NDCP. Among these,

NDCP has a negative influence on Autonomy. Similarly other dimensions of Well Being are also affected by either of these dimensions of Dyadic Coping except SDCP which seems to be impacted only by SDCP.

Further investigation was carried out to understand whether predictors of each of the dimension of differed among males and females. Results (Table 8a) showed that various dimensions of psychological well-being were affected by different dimensions of dyadic coping among males and females. Supportive dyadic coping in all dimensions of psychological well-being emerged as the most powerful predictor in case of males; for example, 46.9% variance in personal relations, in case of male, was predicted together by supportive dyadic coping ($\beta = .416, p < .000$) and common dyadic coping ($\beta = .324, p < .05$).

However, common dyadic coping was observed to be a stronger predictor of psychological well-being in case of females (Table 8b). This could predict variance in most of the dimensions of psychological well-being, especially personal relations. 25% of variance in personal relations was explained by common dyadic coping alone ($\beta = .500, p < .000$).

However, Supportive dyadic coping ($\beta = .438, p < .000$) was observed to explain 19.2 % variance in case of environmental mastery. Interestingly, in case of females, negative dyadic coping of partner ($\beta = -.320, p < .05$) was also observed to influence autonomy, whereas in case of males it impacted purpose in life significantly ($\beta = -.195, p < .05$). Common dyadic coping although having a significant impact on personal growth ($\beta = .305, p < .05$), could explain only 9.3 % variance in psychological well-being.

As represented in Table 9, age ($\beta = .229, p < .05$), number of years of marriage ($\beta = -.291, p < .05$) and dyadic coping ($\beta = .5-7, p < .05$) together could explain 32 % variance in psychological well-being.

Table 7: Dyadic Coping Dimensions as A Predictor of Well Being Dimensions (Multiple Regression Analyses)

DV: Dimensions of Psychological Well-being

	Autonomy			Environmental Mastery			Personal Growth			Personal Relations			Purpose of Life			Self Acceptance		
	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β
SDC	0.378	0.132	0.271**	0.532	0.112	0.413**	0.373	0.119	0.313**	0.513	0.127	0.356**	0.398	0.109	0.348**	0.454	0.13	0.325**
SDCP				0.221	0.102	0.192*												
NDCP	-0.346	0.112	-0.201**	-0.276	0.1	-0.174**	-0.229	0.101	-0.156*				-0.288	0.093	-0.204**			
CDC	0.402	0.115	0.344**				0.225	0.103	0.225*	0.371	0.107	0.307**	0.244	0.095	0.255*	0.32	0.109	0.273**
R Square	0.325			0.325			0.251			0.377			0.32			0.313		

*p < .05, **p < .01

Table 8 (a): Dyadic Coping Dimensions as A Predictor of Well Being Dimensions (Male) (Multiple Regression Analyses)

DV: Dimensions of Psychological Well-being

	Autonomy			Environmental Mastery			Personal Growth			Personal Relations			Purpose of Life			Self Acceptance		
	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β
SDC	.569	.166	.389*	.755	.112	.567**	.761	.099	.626**	.609	.161	.416**	.473	.147	.392*	.696	.165	.479**
SDCP	-	-	-	-	-	-	-	-	-	-	-	-	.234	.134	.212	.299	.152	.224
NDCP	-.255	.145	-.140	-.262	.140	-.159	-	-	-	-	-	-	-.292	.128	-.195*	-	-	-
CDC	.439	.149	.331*	-	-	-	-	-	-	.430	.146	.324*	-	-	-	-	-	-
R Square	.477			.374			.392			.469			.380			.433		

*p < .05, **p < .01

**Table 8 (b): Dyadic Coping Dimensions as A Predictor of Well Being Dimensions (Female)
(Multiple Regression Analyses)**

DV: Dimensions of Psychological Well-being

	Autonomy			Environmental Mastery			Personal Growth			Personal Relations			Purpose of Life			Self Acceptance		
	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β	B	Std. Error	β
SDC	-	-	-	.551	.121	.438**	-	-	-	-	-	-	-	-	-	-	-	-
NDCO	.389	.220	.235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDCP																		
NDCP	-.508	.217	-.320*	-	-	-	-	-	-	-	-	-	-.248	.142	-.191	-	-	-
CDC	.418	.120	.408*	-	-	-	.279	.093	.305*	.543	.101	.500**	.470	.092	.560*	.486	.099	.467**
R Square	.182			.192			.093			.250			.240			.218		

*p < .05, **p < .01

**Table 9: Age, Number of Years of Marriage and Dyadic Coping as Predictor of Psychological Well-being
(Multiple Regression Analyses)**

	B	Std. Error	Beta
DV: Psychological Well-Being			
Age	.758	.318	.229*
Number of Years of Marriage	-.882	.294	-.291*
Dyadic Coping	.637	.079	.507*
R Square	0.320		

*p < .05

DISCUSSION AND CONCLUSION

This study was conducted with an aim to find out the extent to which dyadic coping impacts psychological well-being of Indian married people. The intention of this research was to understand how married individuals are coping with Covid19 challenge in India as also to determine whether Dyadic Coping could predict wellbeing. Another objective was to find out whether dyadic coping in male and female predicted psychological well-being differently.

Dyadic coping was observed to explain 28.5% of variance in psychological well-being. Interestingly, number of years of marriage was found to have a negative impact on psychological well-being ($\beta = -.291$, $p < .05$). This contradicts the logic and previous research where it was noticed that wellbeing increased as the years after marriage passed by (Dush, 2008). It thus leaves scope for further research- to find out the reasons for the inverse relationship.

Supportive dyadic component ($\beta = .528$, $p < .01$) and common dyadic coping ($\beta = .216$, $p < .05$) predicted 48.8 % variance in psychological well-being. On the other hand, common dyadic coping ($\beta = .480$, $p < .01$) predicted 23.1 % variance in psychological well-being among females. Both common dyadic coping and supportive dyadic coping include emotion focused as well as problem focused coping (Bodenmann, 2005). When both partners work together, either by engaging in relaxing activities or solving a problem to reduce a common stress caused by external environment, common dyadic coping occurs. When one partner works, by empathizing or advising, to reduce stress of the other partner, supportive dyadic coping is said to be activated (Ogolsky, 2020). It is obvious from the research that both the partners score high on positive dyadic coping to reduce the stress caused by the pandemic Covid-19, however with a different approach. While the male works to reduce the stress of his partner more by either understanding, advising, or being empathetic, and in turn reducing his own stress; a female, on the other hand, believes in jointly analysing the problem and reducing stress. This result agrees with previous research which says that both male and female express a different style of dyadic coping. For a male, his personal dyadic coping predicts marital quality and for females both their personal as well as her partner's dyadic coping predict marital quality (Papp, 2010).

Coping strategies such as planning, cognitive restructuring, emotional calmness and seeking of social support was observed to increase autonomy in males in previous research (Carrasco, 2013). The result obtained from this study is in sync with the aforesaid research. Supportive dyadic coping and common dyadic coping together explain 47.7% variance in autonomy.

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Adopting Digital Technology to Overcome Challenges of Circular Economy: A Case Study of Platform-based Start-up in India

U. Amaleshwari* and Jeevitha R.**

ABSTRACT

Digital transformation is driving growth in a wide range of industries. At the same time, circular economy has gained traction as a means of optimizing resource utilization and augmenting profitability induced by innovations and operational efficiency. Academics, policy analysts and practicing managers have been keenly observing how digital technology relates to circular economy. This article examines how the Indian start-ups are trying to tackle the challenges posed by circular economy through adoption of digital technologies. The article also probes how implementation of digital technology and circular economy practices relate to each other in terms of improving operational efficiency and increasing productivity as well as profitability in the long run. The article is likely to enable the practicing managers to develop a holistic perspective on adopting digital technology with an eye on the gains accruing from circular economy. Academics and researchers can gain fresh insights from this article to carry out studies on implications of combining adoption of digital technology with circular economy.

KEYWORDS: Digital Technologies; Sustainability; Circular Economy; Start-ups; India

* Head & Research Supervisor, School of Management, DDGD Vaishnav College, Chennai, India

E-mail: amalaumapathi@gmail.com

** Research Scholar & Assistant Professor, School of Management, DDGD Vaishnav College, Chennai, India **E-mail:** jeevithavenu9@gmail.com

INTRODUCTION

Phenomenal increase in population coupled with concomitant urbanization and high incidence of pollution of all sorts have jeopardized the prospects of long-term survival of human civilization. According to some of the reports, accretion of municipal solid waste in the world is likely to increase alarmingly by around 70% to the tune of 3.4 billion metric tons by 2050 due to our current consumption patterns. The scenario is indeed baffling. However, there is a way out if the industries across the globe join hands to adopt a circular economy which is primarily based on the widely acknowledged concepts of 3Rs viz. 'reduce, reuse, and recycle' and thereby capable of mitigating the looming problem of managing solid waste on the earth. Circular economy is a unique business model that fosters a balance between economic development and preservation of natural ecosystems by substituting the linear business model based on the traditional notions of 'take, make, use and dispose' (European Union, 2015). However, a gigantic shift from linear economy to circular economy cannot be possible without appropriate innovations, especially in digital technology. In fact, digital technologies can help in closing the loop in economic systems so that we have less solid waste to deal with while increasing profitability.

All the member nations of the United Nations adopted 17 Sustainable Development Goals (SDGs) in 2015 to be accomplished by 2030 (Salvia et al., 2019) which gave impetus to circular economy across the globe. No wonder, Indian organizations have also demonstrated significant interest in circular economy which is closely aligned with SDGs. Recent studies indicate that the Indian government is encouraging the industries to adopt circular economy. Moreover, concerted efforts made by the government, industry associations and corporate houses towards promoting circular economy have expedited attempts to boost urban and rural economies, fight climate change, improve food and water security, and empower people. It has been observed that the start-ups in plant-based proteins, greenhouse gas reduction, electric vehicle carbon pollution monitoring, and integrated e-waste management may benefit from the net-zero paradigm, ensuring a sustainable future (Jeevitha and Amaleshwari, 2023).

Furthermore, start-ups can leverage the benefits of circular economy in a better way by adopting digital technologies and fostering an ecosystem of innovation. Thus, the start-ups can play a major role in transmuting Indian economy by augmenting national income, expanding employment and livelihood opportunities, and boosting exports of products and services. True, start-ups are growing rapidly in developed as well as emerging economies (Song et al., 2008; Eisenmann, 2021) by combining digital technologies and platform-based business models with the nuances of circular economy. For example, Amazon, Alibaba, and Airbnb have succeeded in creating great fortunes for their shareholders by optimizing platform-based business models that work on digital technologies (Edelman et al., 2014). Thus, it is not at all surprising that the world economy is characterized by high incidence of enterprises which are set-up around digital technologies and platform-based ecosystems.

Under a platform-based business model (PBB), enterprises focus on Business to Business (B2B), Business to Consumers (B2C), or Consumer to Consumer (C2C) marketplaces, thus enabling the expeditious exchange or transaction of goods, expertise, facilities, or provisions (Henry et al., 2020). Scholars have observed a significant growth in peer-to-peer platforms which often function as seamless accelerators to minimize the wastages of resources. Besides, platform-based businesses are characterized by low labour intensity and even lower entry barriers (Ellen MacArthur Foundation, 2015; Ritter and Schanz, 2019). In addition, several research studies indicate a rapid development of digital technologies as a determinant that makes it possible for innovative platform business models to emerge and succeed in the marketplace and leverage their comparative advantages. The innovative platform-based business models act like enablers of commercial transactions while creating immense value for each of the stakeholders in the process (Potting et al. 2017 and Konietzko et al. 2019). Digital technologies like 3-D Printing, Blockchain, Internet of Things, Radio Frequency Identification, Virtual and Augmented Reality, Digital Twins, Robotics, Cloud Computing, Drones, etc. have made it easier for firms to integrate their product and service offerings with circular economy (Bressanelli et al., 2018; Popov et al., 2022).

However, the shift to circular economy and platform-based computing poses significant problems for businesses, including user engagement, market growth, and monetization (Tura, 2018). Even though digital technologies are widely used, not much attention has been paid to how they can be leveraged to solve problems in business activities revolving around circular economy (Nobre & Tavares, 2017). An ever-growing aspect of the contemporary circular economy paradigm is driven by platform-based digital technologies. These platforms serve as interfaces mediating interactions between various stakeholders such as groups of buyers and sellers or complementors and the community of end-users (McIntyre et al., 2020). A rapid and strategic adoption of technological advancements such as the Internet of Things (IoT), which enables speedy processing of data through unified digital devices; artificial intelligence (AI), which substitutes human reasoning while processing the large datasets; virtual reality, which is a relatively new development in user experience management; robotics, which replaces human at the shopfloor; 3-D printing, which has revolutionized customization in industrial production; and blockchain, which links records using cryptography for augmented transparency; amongst others, promise to increase competitive advantages and reduce risks for the firms which are combining technology with circular economy (Peruffo et al., 2017). While it is true that combining platform-based business models with circular economy is advantageous for both the firms and the community, there are several hurdles in the way.

The present paper examines the hurdles or challenges in combining digital technologies and circular economy through case study. This paper has four sections. The first section delves into nuances of circular economy and platform-based business models, and the difficulties that the firms face while integrating the two. The second section highlights the research methodology, while the third section presents the results of the case study. The fourth section discusses the results and provides conclusion.

BACKGROUND

Circular Economy and Platform-based Business Paradigms

Although research and understanding in the field of circular economy are still relatively limited, other schools of thought have contributed to the development of the concept such as cradle-to-cradle (C2C), blue economy, industrial ecology, etc. on a closed-loop. As such, circular economy is "an economic system that is based on business models that replace the end-of-life concept with reducing, alternatively reusing, recycling, and recovering materials in production/distribution and consumption processes" (Kirchherr et al., 2017). Prime objective of circular economy is attainment of sustainability in business processes, which entails a better quality of environment, value creation for all the stakeholders and inclusion of all, including those who are marginalized and struggle for survival at the bottom of the pyramid. Thus, circular value chain alters both production and consumption patterns in sync with sustainable development goals. The emphasis is placed on the effective and judicious utilization of resources, which in due course, contributes to sustainability (Geissdoerfer et al., 2017). Firms are required to make strategic decisions that embrace a variety of practises, including the elimination and conversion of waste, the prioritization of renewable resources, the design of products that are long-lasting and re-usable, and the combination of collective consumption, more typically, via pay-per-use schemes (Stahel, 2013). Within the realm of customer experience, a wide range of platform firms have been established. There are several instances in which digital technologies are used to operate their organization, hence enhancing both the efficacy and ease of the procedure (Hirota et al., 2022).

Circular Economy Challenges

Major challenges faced by the firms while combining digital technologies and circular economy included ownership and sharing of large set of data, competencies of the employees and managers, funding, and transitioning from product-orientation to service-orientation, etc. (Antikainen et al., 2018). Furthermore, scholars have also identified other impediments in the way of combining digital technologies with circular economy such as lack of parameters to measure profitability accruing from digitalization, lack of information, lack of appropriate

supply chain networks, and lack of positive attitude among stakeholders regarding efficacy of circular economy. Besides, there are technical constraints associated with combining digital technologies into production methods (Ritzén & Sandström, 2017). Although digitalization has already accomplished significant headway in terms of accuracy, affordability and access, a lot more is yet to unravel. Currently, issues related to information management such as inadequacy of data, high data cost, etc. are the biggest hurdle in the way of adoption of circular economy (Berg & Wilts, 2018). Technological hurdles pose significant challenges in both production/take-back systems and how that would function and how much it would cost (Ritzén & Sandström, 2017). Also, while examining the scope of digitalization in adopting circular economy, issues related to data integration are generally ignored. It goes without saying that data integration is crucial for taking a plunge from linear economy to circular economy with the aim of improving operational efficiencies for optimum resource utilization with active support of all the stakeholders in the information systems (Pagoropoulos et al., 2017).

Digital Technology for the Circular Economy

Significance of digitalization as a major facilitator of circular economy is well acknowledged. The use of digital technology and associated outcomes have the scope to minimize consumption and encourage circular systems (Moreno & Charnley, 2016). Integrating digital intelligence may distribute information, structure, ownership, and customization, fostering more meaningful and lasting interactions with end-users. Digital intelligence may empower the enterprises based on circular economy business models by way of automation and smart supply chain networks. The digital intelligence can promote decentralised, re-distributed, and circular production and consumption patterns for the benefit of all the stakeholders without compromising on quality (Moreno & Charnley, 2016).

RESEARCH METHOD

Research on the amalgamation of digital technology into circular economy has been making progress in recent years. Nevertheless, there has been a far smaller number of studies

conducted on the process of establishing platform-based circular economy firms. This paper tries to address the following research questions through case study method:

RQ1: How is the function and effectiveness of digital technologies in the growth and development of platform-based firms adhering to circular economy norms?

RQ2: How can the digitalization technologies be applied to recycle and remanufacture goods in sync with the norms of circular economy?

THE CASE STUDY

Beta is a vegetable and food staple distribution company which operates mainly in southern India. The company was established in 2015, and it offers solutions for the delivery of vegetables from farmers to consumers using platform-based business models. It meets the requirements of both the business-to-business (B2B) and business-to-consumer (B2C) markets. They adhere to full-stack technology, which means that they implement technological solutions at every level of the supply chain, beginning with the stages of cultivation and manufacturing and continuing through the stages of distribution and retailing. A full-stack technology-driven supply chain business may include critical components such as advanced data analytics for decision-making, supply chain management software for optimizing logistics, blockchain technology for traceability, and communication platforms for real-time collaboration between stakeholders such as farmers, processors, distributors, and retailers. These components may be used to optimize logistics. Table 1 shows how the farmers use the platform for different agriculture-related know-how. Incorporating technology at every level contributes to developing a supply chain ecosystem that is more accommodating, flexible, and effective.

Table 1: Mobile Application used by farmers for various agriculture related activities:

Detection of Insects and Diseases	Intelligent Irrigation Planner
Crop Protection and Information	Spray Management The Prediction of

	Diseases Through Spray Management
Real time Mandi price	Support via Voice and Chat
Monitoring of the Farm's Health Through (NDVI)	Weather

Source: Compiled by the Authors

On its sixth anniversary, Beta's annual recurring revenue was INR 1000 Crore, and it was expanding its footprints to Western India and the Middle East. With Beta's "phy-gital" approach to business, data regarding customer tastes and market demand could be quickly sent to producers, wholesalers, and retailers; for example, the farmer sort and grades the food products based on the orders generated by their Master Planning system; once it is delivered to the Distribution centres they are tested for quality for color and size along with the international food safety standards. Once the food passes through the quality check, it is placed in the conveyor for an automatic inverting procedure to avoid unnecessary malpractice, and payment is released within a week. The customers use their platform to know the supply and the available stock, and the order is placed.

The company aims to positively impact the farmers, give them high returns, and lower food wastages using machine learning algorithms that map the customers' needs directly to the farmers on the backend. The business launched Next-gen AI-powered farmer engagement apps in 2022. These six-language applications provide detailed information and personalized solutions. The application helps automate soil testing, crop health, and Real-time mandi price. Farmers using this technology have seen 20%–40% revenue increases. The company has become the fastest-growing agro-tech company in less than five years.

Even though an in-depth scrutiny is essential to evaluate the influence that a platform-based business solution has on the environment and the economy, it is possible to see that Beta can achieve circularity via its platform-based business for a few different reasons. First, the firm has transitioned from a supply-led strategy to a demand-driven approach, which ensures that the

cultivation and processing of the product are in line with the market's current requirements. This helps limit the risk of surplus inventory and minimizes overproduction, which contributes to a more circular and effectual usage of natural resources. The second component of circularity is reduction, which is essential since it lessens the adverse upshot on the atmosphere linked with the disposal of surplus food.

Digital Technologies to Overcome Circular Economy Challenges

To deliver its platform-based business, the company gave the associated farmers a tablet each with GPS and other digital products tied to the internet with its apps, which could monitor and manage the customers' needs in real time. The company also leveraged big data with appropriate analytical tools. Such measures enabled Beta to overcome the hurdles of integrating its business model with the norms of circular economy. Table 2 summarizes how different apps helped the company address various challenges.

Table 2 Role of Digital Technologies in Overcoming Circular Economy Challenges

Digital Technology	How Beta overcome the challenges
Mobile Computing/Apps	Provides real time data enhancing supply chain visibility for collaborative decision making. Overcomes the operational challenge
Analytics & Big Data	Crop cultivation by understanding the market trends, Efficient use of resources to reduce wastage, Identify the supply chain bottlenecks. Helps with Predictive analysis.
Cloud Computing	With more than 169,000 customer networks, 100+ Procurement location and 412 distribution points, Large volume of data is stored. Overcome the scalability challenges.
Internet of Things	Satellite and AI-enabled Smart-Farm resource management solution

	gives farmers precise water and weather data. Helps to overcome Infrequent rainfall, temperature variations, and disease outbreaks reduce harvesting and yields.
Blockchain	Reduce counterfeit products while handing in Distribution Center or during at any point of supply chain.

Source: Compiled by the Authors

DISCUSSION

The case of Beta has indicated that digital technologies can be used for overcoming the hurdles of integrating platform-based business units with circular economy. As reflected in Table 2, tools such as mobile computing, big data and analytics, cloud computing, Internet of Things, and blockchain proved quite handy in providing real time solutions to the issues in circular value creation. The company successfully executed its plan of action regarding mitigation of operational risks, reduction of food wastages and increase in the income levels of the associated farmers.

Secondly, Beta has successfully applied digital technologies for recycling and reproducing goods. The case study has indicated that platform-based business units can have additional features to recover their recyclable material from the user. For example, Decathlon in India swaps their used products for Decathlon credit. Older and used Bicycle can be taken to nearest store, after the experts check the usability the buyback price is estimated, and a gift card is offered to shop at their store.

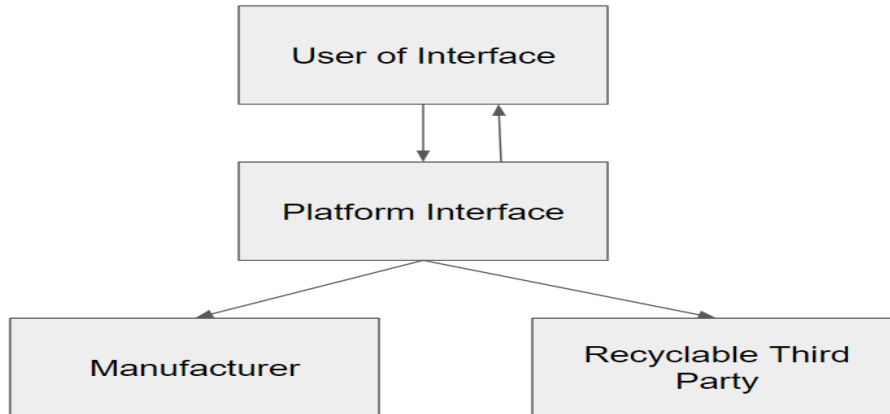


Figure 1: Digital Interface for Circular Economy (prepared by the Authors)

Figure 1 elucidates that it is possible for the platform-based businesses to make use of their digital interfaces to educate consumers and provide them with incentives to learn about recycling programmes. It is possible for companies to promote a greater rate of participation by implementing user-friendly elements such as incentive systems or discounts for returning recyclables. Furthermore, these platforms have the capability to use technology to monitor and trace recyclable materials, so making the process more responsible and transparent. Platform-based businesses have the ability to build relationships with recycling facilities or third-party suppliers to guarantee the correct processing of returned products. These capabilities may be achieved via the implementation of efficient logistics and collecting systems. Platform-based firms can integrate with circular economy paradigm by using a mix of technical engagement, user incentives, and strategic collaborations. This not only helps these businesses become more environmentally responsible, but it also helps their customer base develop a feeling of shared responsibility.

CONCLUSION

Beta's case study has indicated that it is possible to mitigate the challenges of integrating platform-based businesses with the circular economy paradigm by the efficient use of digital technologies. Beta has successfully educated the consumers on their recycling responsibilities and reclaimed old products from them. Thus, the company has been able to recycle and

reproduce useable goods, a characteristic feature of the circular economy. However, it would be premature to generalize the role of digital technologies in enabling platform-based business units to integrate with the circular economy paradigm. Taking cues from the present paper, it is imperative that the scholars can take up more empirical studies on the theme.

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Opinion

Global Capability Centres in India: Current Scenario and the Way Forward

Srirang K Jha*

ABSTRACT

Global Capability Centres (GCCs) have emerged as the greatest growth engine in India during the past two decades. However, the success story of GCCs in India is constrained by regional imbalance in the upward journey of the country towards prosperity and progress. While the GCCs have transformed the industrial landscape of southern states in India, the northern and eastern states of the country have remained backward. Setting up of GCCs in the backward states of India require significant investments in world class infrastructure like Technology Parks and Special Economic Zone. It is hoped that the new government after elections in 2024 will pay heed to the aspirations of the backward regions of the country so that the dream of 'Viksit Bharat by 2047' can be achieved. Further, expansion of GCCs will mitigate the incidence of unemployment and poverty and help India become 5-Trillion economy in due course.

KEYWORDS: Global Capability Centres (GCCs), Employment, Innovation, Competitiveness, India

* Associate Professor and Head, General Management & International Business Area, Apeejay School of Management, New Delhi, India

E-mail: srirang.jha@learn.apeejay.edu

INTRODUCTION

Global Capability Centers (GCCs) are the satellite constituents of the multinational corporations (MNCs) to support the parent organizations in an array of strategic roles through dedicated teams of experts, cost arbitrage, and operational efficiencies in the host countries. GCCs contribute not only to minimize costs but also add value to the product or service offerings of the parent companies and ensure seamless operations across the value chain. These centres of excellence enable the parent companies to focus on their core competencies. On the other hand, GCCs also supplement the innovation ecosystems of the parent companies. Over the years, GCCs have emerged as nerve centres of innovation. India is specially positioned to become a hub of GCCs for the leading MNCs of the world thanks to availability of tech-savvy talent pool as well as public policy focus towards attracting foreign direct investments such as Make in India, Digital India, Skill India, Technology Parks, Special Economic Zones, Ease of Doing Business in India, lower restrictions on raising overseas funds, production-linked incentives, etc.

Defying the popular notion of being the cost centres, Indian GCCs have evolved in the last two decades as centres of strategic excellence and innovation. No wonder, India accounts for over 45% of the GCCs in the world outside of home country and these centres are in a sense a microcosm of the global enterprise (NASSCOM, n.d.). A report published in the Economic Times indicated that at least 20% of Forbes 2000 companies have already established their GCCs in India as of 2023 (Majumdar and Parmar, 2023). According to a Deloitte Press Release based on a 2023 Global Shared Services and Outsourcing Survey:

“The GCC sector currently contributes a revenue of US\$60 billion, which is expected to reach US\$75-80 billion within 4-5 years. India is expected to have over 1,900 GCCs, employing 2 million people and earning US\$60 billion. According to WTO estimates, India is also amongst the world's top exporters of services, doubling its share in global services trade to over 4 percent in 2022 from 2 percent in 2005. This, backed by survey findings, showcases that shared service centres are going to be at the core of India strengthening its position on the global map, and achieving the country's services exports target of US\$400 billion for the current fiscal year”. (Deloitte, 2023)

DEVELOPMENT OF GCCS IN INDIA

Growth story of GCCs in India dates back to 1985 when Texas Instruments first opened its facility centres in Bengaluru. Liberalization in 1990s propelled the growth of GCCs in a significant manner. However, the GCCs got real push in early 2000s as when a very good number of MNCs chose to set up their cost centres like Business Process Outsourcing (BPOs) in the country. Availability of cheap knowledge workers and cost-effective real estate space triggered growth of BPOs in the country in a big way. GCCs in their initial avatar not only managed back-office functions but also handled tasks related to IT support functions such as data processing, customer care and documentation. Second phase of the growth of GCCs commenced in 2005 and continued till 2012. During the second phase, GCCs evolved as Global In-house Centres (GICs) with a clear mandate to improve delivery and process excellence fostering digital transformation and innovation throughout the organisation's product and service capability ecosystem (India Brand Equity Foundation, 2023).

The third and current phase of GCC growth story in India started in 2013 and is likely to continue during next few years. Now GCCs are viewed as Centres of Excellence (COE) with augmented emphasis on ownerships at GCC-level, innovation, digitization, use of artificial intelligence, machine learning, big data, etc. GCCs are poised to take care of multiple functions such as engineering research and development, information technology (IT) and banking and financial services (BFSI) among others (India Brand Equity Foundation, 2023). In the emerging scenarios, the GCCs are complementing the innovation thrust of their parent companies as never before. Table 1 provides a glimpse of the characteristic features of new age GCCs categorized as shared service centres, research and development centres, knowledge centres, innovation centres, and customer service centres. These centres work in tandem with the corporate headquarters to meet and exceed stakeholder expectations and offer value-added services imbued with cost efficiencies. No wonder, the MNCs from across the world are now looking at India as their preferred choice for setting up GCCs. We can expect large number of GCCs coming to India thanks to conducive ecosystems unleashed by the Government of India over the last ten years as manifested in various schemes to attract foreign direct investments.

Table 1: Characteristic Features of Global Capability Centres (GCCs)

Sl. No.	Type of Global Capability Centres (GCCs)	Characteristic Features
1.	Shared Service Centres	Finance, HR, IT, and procurement of all in one place for efficiency
2.	Research & Development Centres	Innovation hubs for new products, technologies and processes
3.	Knowledge Centres	Management of remotely shared information
4.	Innovation Centres	Development of new ideas, research, development of prototypes
5.	Customer Service Centres	Management of customer relations (query handling, complaints handling, feedback management)

Growth and development of GCCs in India have been facilitated by the following building blocks:

- **Availability of Talented Workforce:** India is said to have 5.4 million tech talent pool. Besides, India has second largest English-speaking population in the world. Indian workforce is highly affordable. For example, compensation of a software professional in India is just 1/10th of the same for his/her US counterparts.
- **Availability of Real Estate:** There are abundance of office and residential spaces in cities and towns of the country. Rentals in major Indian cities are 50% lower than other competing markets in Asia. Besides, the government provides facilities at affordable rates in the technology parks in various states of the country.
- **Conducive Public Policies:** India has been ranked highly in the Ease of Doing Business. Besides, the country has several schemes such as Digital India, Start-up India, Make in India, etc.
- **Strong Technology Ecosystem:** India has a robust technology ecosystem as manifested in increasing number of tech-based start-ups, technology firms, and Global Innovation Ranking.

THE ROAD AHEAD

The GCC market is likely to cross US\$ 100 billion by 2030 with 2500 GCCs across the country employing over 4.5 million people (India Brand Equity Foundation, 2023). It is imperative for

the government to leverage the scenario vis-à-vis GCCs to attain the lofty goal of 5-Trillion economy while resolving the issue of unemployment in due course. The government has already taken initiatives conducive for proliferation of GCCs. However, currently, GCCs are mostly concentrated in southern states of India like Karnataka, Kerala, and Tamil Nadu. It is imperative that the government incentivises the expansion of GCCs in states like Assam, Bihar, Jharkhand, Odisha, West Bengal, etc. World class infrastructure like Techno Parks (Jha and Mohapatra, 2023) can be established in 100 most backward districts of India (Prasad, 2023) to augment the dispersion of GCCs, which in turn, can help in attaining the lofty goal of 'Viksit Bharat' by 2047.

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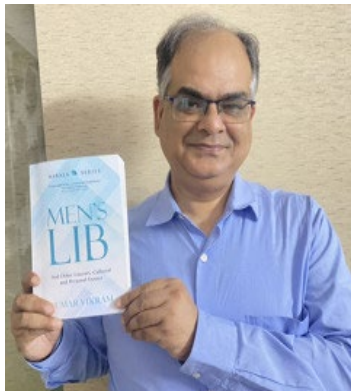
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Book Review: MEN'S LIB and Other Literary, Cultural and Personal Essays by Kumar Vikram

Akshey Kumar*

ABSTRACT

This article reviews MEN'S LIB and Other Literary, Cultural and Personal Essays by Kumar



Vikram (2022). The book provides a hope that essay as a genre is here to stay for years to come. Vikram has presented a unique bouquet of his literary, cultural, and personal essays written and published over 15 years from 2004 to 2020. The essays in the book have been categorized as socio-cultural, literary, and personal. The book showcases Vikram's own evolution as an essayist who creates his narratives based on lived experiences,

academic rigour, critic's mind, and layman's inquisitiveness. The author provides a fresh perspective on some of the historical, literary, cultural, and political figures as well as imageries and provokes the readers to challenge their worldviews in inimitable style. Essays in the book are likely to trigger discourses and conversations around contemporary social, literary, and personal issues.

KEYWORDS: Men's Liberation, Culture, Gender Discourse, Relationships, Identities, Essays, India

*Critic, Translator and Author; Formerly DIG, Ministry of Home Affairs, Govt. of India; Formerly Professor, Apeejay School of Management, New Delhi **E-mail:** akshey@hotmail.com

MEN'S LIB and Other Literary, Cultural and Personal Essays

by Kumar Vikram

Published by Nirala Publications (2022); Pages: 260

Writing a review on MEN'S LIB and Other Literary, Cultural and Personal Essays by Kumar Vikram, acclaimed by literary giants of the stature of Prof Prasanta Chakravarty, Prof Anisur Rahman, and K. Satchitadanandan, among others, was an experience of learning the thought process of the author, so varied and stimulating and enriching to the mind. The book covers a wide range of diverse subjects and issues: 19 essays in all –seven socio-cultural, 8 literary and 4 personal –in that order, all written and published between 2004 and 2020.

An essay attempts to express thoughts in writing, which may be literary criticism, political proclivities, well-thought-out arguments, observations of daily life, or the author's recollection/reflections. It is an analytic or interpretative literary composition usually dealing with its subjects from a limited or personal point of view. In the book's Introduction, Vikram expresses deep anguish over the lingering memories, traces, and realities of more than 200 years of colonial domination. He mentions the imposing statue of British General Henry Havelock at Trafalgar Square and public parks named after him in Singapore and New Zealand and his tomb in the Alambag area of Lucknow. Reference is also made to the statue of British Brigadier General James Neill (who is identified as the butcher of Allahabad). Furthermore, the Introduction specifically refers to two lead essays: MEN's LIB and Taj Mahal. Vikram makes a strong case that in 21st-century India, Men's Lib is an idea that needs to be brought back to the centre of popular discourse in academic or general discourse through a process.

The first preferred choice to scan four personal essays is an attempt to ascertain the author's mindset. Personal essays are autobiographical and relate to a significant personal experience. Since these are conversational, there is a sense of intimacy and impact on the writer's logic. No subject matter is untouchable and need not pass through the rigours of structure. The first lengthy essay is devoted to Prof Damodar Thakur (1923-2012), a family-folk hero, an English scholar and a contemporary of Prof C D Narasimhaiah at Cambridge. Vikram developed a camaraderie with Prof Thakur by sending him the National Book Trust Newsletter, of which he was on the editorial team. Prof Thakur was a literary giant, well respected and fondly

referred to across nations, among them by the US-based Pakistani novelist Mohsin Hamid. Deeply rooted in the Indian traditions, Prof Thakur, speaking in a seminar, says, "The influence of the Western culture can be resisted if we have high self-esteem and learn to have faith in our own culture and transition".

The second essay reminisces his father, Prof Arun Kumar Sinha (1940-2011), whom he calls English Professor and Activist. Prof Sinha was an exemplary human being, a committed teacher known for his works on T S Eliot and Mark Twain and his role and contribution to the socialist and Sarvodaya movement spearheaded by Acharya Narendradev, Karpuri Thakur, Ram Manohar Lohia, and Jaiprakash Narayan. Prof Sinha's general refrain was that a teacher must be able to 'stimulate' the students' minds and that a teacher's knowledge or research was good enough only if it got delivered effectively in the classroom lectures and students benefitted from that.

The third essay is related to his elder brother Kumar Vivek, who also had multi-dimensional interests and rich reading habits, love for French writers Sartre and Camus, and who subscribed to the Hindi literary magazine '*Sarika*'. He played gully cricket, learned to sing Kishore Kumar's songs in the bathroom, and watched parallel and masala action films. The fourth essay, captioned 'Male bounding', is an autobiographical essay in verse wherein Vikram is nostalgic about his family –mother, wife, daughter, father, and brother.

The lead essay, "Female Foeticides and Limitation of Feminism," ponders the question, "Can Men's Lib provide the answer?" Female foeticide and infanticide are monsters, as reflected in the northern Indian States, and raising their ugly heads in some southern states. Votary of Men's Liberation Movement, Vikram strongly feels that the skewed male gender role (the idea that manhood depends on how to oppress and subjugate other people) inflicted upon the men as they grow up, stifles their development as 'wholesome human beings'. Also, the biggest scepticism that the Men's Liberation Movement in India would have to suffer may come in the form of enquiries from the margins through Dalit/Minorities/Tribal discourses. Whereas Mark Shelley suggests, 'I don't wish to have power over men; over themselves', Steve Biddulph, the Australian author, suggests a Men's Movement/Women's Movement alliance so society can develop comprehensive solutions to gender bias. Vikram concludes

that Men's Lib, emphasising freeing men from the illusions of superiority and fixed notions about gender roles, seems as varied and compulsory a necessity among the marginalised communities as it might be for those holding on to the centre of things. Reference may also be made to Jack Nichols' book *Men's Liberation: A New Definition of Masculinity* (1975), wherein the author delves into how men can be liberated from the culture of toxic masculinity.

In the second lead essay, "Taj Mahal and the Image of Womanhood and Love", Vikram views the Taj Mahal as a tool for perpetuating male notions about proper womanhood or love. He wonders whether the Taj would have gotten that much attention and praise had it been made in memory of independent-minded, freedom-seeking, and feminist personalities like Razia Sultana or Noor Jahan. With the image of Mumtaz Mahal in mind, the writer refers to Madhu Kishwar's analysis of the way 'the pervasive popular cultural ideal of womanhood sustained of a woman as a selfless giver, someone who gives and gives endlessly, gracefully, smilingly, whatever the demands, howsoever unreasonable and harmful to herself. Right now, criticism of the Taj Mahal is growing increasingly bold. Some people feel that it was built by the blood and sweat of India's farmers and labourers, that it was costly to construct, that its beauty and historical significance are overstated, and that it does not represent Indian architecture. In his book *Taj Mahal: The True Story*, P N Oak furnishes evidence to prove that the Taj Mahal existed years before the death of Mumtaz Mahal, that it was a temple place, and that records were falsified to show it was a grave.

In an essay, "India: Nation –State vs. Civilization", Vikram lamented that the Marxist scholars dominated the Indian intellectual scene since independence and referred to the Marxist interpretations of Indian culture and society by historians like Vinay Lal, who taught history at the University of California and was more interested in addressing an audience outside India. Kumar Vikram says, "It's rather strange that the author (Lal) would like to hark back upon the intrinsic qualities of India as a civilisation while remaining completely oblivious of the suppression and discrimination that kept that idea going, which has precisely been the focus of attention of India as nation state'.

The essay captioned “National Consciousness and the Bihar Movement” highlights the contribution of Brajkishore Prasad (1877-1946), a lawyer and eminent leader of the Indian National Movement and a close associate of Mahatma Gandhi and Dr Rajendra Prasad. He focused on the educational and intellectual training of the youth. Visionary as he was, Prasad emphasised the importance of technical education for bringing about national self-reliance. He said merely a century ago that our education should be on national lines. Unless we know our history, study the ancient civilisation of the country, and have pride in our race, we will never be true Indians. He also stressed the need to translate texts and content into vernacular languages, remarking that it was the first step towards enriching any literature.

In the essay, "A Finished Product of Indian Culture Caught in the Crossfire of Communalism," Vikram talks about his 'hero' Maulana Abdul Kalam Azad who was unfortunately sidelined because he found himself at the crossfire of the majority and minority brands of communalism. Very appropriately, C Rajagopalachari described Azad as the great Akbar of Modern India. Nehru referred to Azad as 'the caravan leader, a very brave and gallant gentleman, a finished product of the culture that pertains to few'.

The essay captioned “A Global City Called Book Fair” applauds the contribution of book fairs organised in various parts of the world in promoting new ideas that carry human civilisation on their shoulders. These book fairs give faces to the names and can create avenues even for the smallest publishers. Here, a quote from Nobel laureate Ernest Hemmingway comes to mind, 'There is no friend as loyal as a book'.

Captioned "An American View on Reading as Socio-economic Skill", the essay decodes Barack Obama's views on the importance of reading. The famous scholar President of the US is widely respected among the intelligentsia. My daughter, Prof Anupama Arora, Professor of English at the University of Massachusetts –Dartmouth, tells me that the writings and speeches of Barack Obama are part of curricula in colleges in the US. I, too, follow Barack Obama and have thoroughly enjoyed reading his beautifully written and powerful political memoir, 'A Promised Land'. Unfortunately, a habit of reading is waning across the globe. Vikram laments that the inculcation of a reading habit has yet to seize society's imagination, mainly because book hunger cannot become more overpowering than food hunger in the Indian context.

The twin essays are devoted to nation-building and translation dynamics in Europe and India. The author notes that the coming of nation-states in European countries is marked by the unification of various regions of particular cultural and political communities into nation-states. He extensively refers to the role and the contribution of John Dryden's translations as a vehicle for contemporary political criticism and into the making of England and a modern nation-state. Referring to the Indian context, the author opines that nation-building exercises in colonial India came into being through a very intricate process. The translation works of the Orientalists led by the Asiatic Society of Bengal, especially Sir William Jones' translation into English of Kalidasa's *Sakuntala*, Wilkins' translation of *Gita*, Schopenhauer declaring the *Upanishad* as the product of the highest human wisdom. The author mentions explicitly the contribution made by Raja Ram Mohun Roy and the translation of Tagore's *Gitanjali*.

The essay "Post-Colonialism and Beyond" refers to India's contemporary Dalit literary discourse. While critic Sisir Kumar Das referred to Dalit literature as a narrative of suffering, Dalit critics objected to it as a manifestation of the elites' condescending attitude towards Dalit literature. The author, referring to the philosophy of Edward W. Said, who said that 'Victimhood does not guarantee or necessarily enable an enhanced sense of humanity', demands a more mature response from Dalit thinkers.

The essay, "The Changing Dynamics of Negritude Movement and Pan-African Identity", refers to the poem 'Prayer to Masks' by the legendary Senegalese poet, politician and cultural theorist who was the country's first President for two decades. The poem brings about a black man's longing for a spiritual and emotional state of being, which the enforced superiority and bestial repression of the colonial/white/western world has snatched from him and his contemporaries. Further, the essay on Baba Nagarjun (born Vaidyanath Mishra, who embraced Buddhism and acquired the name after the Buddhist scholar) compares him with the Chilean poet Pablo Neruda in the manner he juxtaposes the personal with the impersonal and with D H Lawrence, who approached the psychological dilemma of his characters in the backdrop of their social realities.

In the essay, 'The Kalevipoeg is more akin to our Dalit-Folk-Tribal Traditions than the Epics', the author shares a conversation with Vishnu Khare on the presentation of the State

Decoration of Order of the Cross of Terra Mariana IV to him as a translator of Estonian national epic the *Kalevipoeg*. Khare also talks about translating the Finnish national poetic epic 'Kalevala'. He says that both the epics have common family roots and are culturally interrelated. *Kalevipoeg*, an epic of a predominantly rural civilisation, is present in all curricula from the primary school level to the Master's degree in Estonia. Khare says, 'I consider Krishna to be the most ideal human being of all times and both Vainamoinen, the hero of Kalevala' and *Kalevipoeg* have a touch of the flute player from Vrindavan.

In the essay captioned "Poet Manglesh Dabral" (1948-2020), the author talks about the poet's consistent tryst with exploring the idea of 'the other' and specifically refers to his two lines from a poem,

'My one hand often pushes the same mountain
With my other hand, I hold on to a piece of sky.'

In another poem, the poet says,

"While walking, someone else is found walking alongside
And in darkness too, an arm appears with love."

In the essay, "Nissim Ezekiel and Dom Moraes" the author talks about the original masters of modern English poetry and observes that while Ezekiel's approach to poetry as a vocation was rather methodical, Moraes somehow could not shake off the reputation of being someone who wrote poetry by fits and starts. On the question of belongingness, the author suggests that Ezekiel returned to India from England to start the complex life of an intellectual focused on finding some space for Indian –English writings, especially poetry. On the other hand, according to Khushwant Singh, Moraes disliked everything about India, particularly Indians, adding that the only exceptions he made were good-looking women he took to bed. Similar uncharitable remarks were made by Geeta Doctor, 'the greatest asset of Dom Moraes was his closeness to women and poetry'. In all fairness, Dom Moraes made a single contribution to Indian English literature by penning more than two dozen books. He was a distinct personality who conducted one of the first interviews of the Dalai Lama when he was barely twenty years old. He had a lifelong battle with alcoholism and led a colourful love life, including marriage to Leela Naidu.

Indeed, reading 'MEN'S LIB and Other Literary, Cultural and Personal Essays' was an intellectual treat. Vikram has successfully resurrected the 'essays' as literary and creative genre and readers are likely to be informed, entertained, stimulated, and provoked at the same time while going through the book.

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