Assessment of Ecosystem Readiness for Adoption of Circularity: A Multi-Case Study Analysis of Textile Supply Chain in Pakistan

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Abstract : Over-exploitation of resources and the burden on natural systems have provoked worldwide concerns about the potential resource as well as supply risks in the future. It has been estimated that the consumption of materials and resources will double by 2060, substantially mounting the amount of waste and emissions produced by individuals, organizations, and businesses, which necessitates sustainable technological innovations to address the problem. Therefore, there is a need to design products and services purposefully for material resource efficiency. This directs us toward the conceptualization and implementation of the 'Circular Economy (CE),' which has gained considerable attention among policymakers, researchers, and businesses in the past decade. A large amount of literature focuses on the concept of CE. However, contextual empirical research on the need to embrace CE in an emerging economy like Pakistan is still scarce, where the traditional economic model of take-make-dispose is quite common. Textile exports account for approximately 61% of Pakistan's total exports, and the industry provides employment for about 40% of the country's total industrial workforce. The industry provides job opportunities to above 10 million farmers, with cotton as the main crop of Pakistan. Consumers, companies, as well as the government have explored very limited CE potential in the country. This gap has motivated us to carry out the present study. The study is based on a mixed method approach, for which key informant interviews have been conducted to get insight into the present situation of the ecosystem readiness for the adoption of CE in 20 textile manufacturing industries. The subject study has been conducted on the following areas i) the level of understanding of the CE concept among key stakeholders in the textile manufacturing industry ii) Companies are pushing boundaries to invest in circularity-based initiatives, exploring the depths of risk-taking iii) the current national policy framework support the adoption of CE. Qualitative assessment has been undertaken using MAXQDA to analyze the data received after the key informant interviews. The data has been transcribed and coded for further analysis. The results show that most of the key stakeholders have a clear understanding of the concept, whereas few consider it to be only relevant to the end-of-life treatment of waste generated from the industry. Non-governmental organizations have been observed to be key players in creating awareness among the manufacturing industries. Maximum companies have shown their consent to invest in initiatives related to the adoption of CE. Whereas a few consider themselves far behind the race due to a lack of financial resources and support from responsible institutions. Mostly, the industries have an ambitious vision for integrating CE into the company's policy but seem not to be ready to take any significant steps to nurture a culture for experimentation. However, the government is not playing any vital role in the transition towards CE; rather, they have been busy with the state's uncertain political situation. Presently, Pakistan does not have any policy framework that supports the transition towards CE. Acknowledging the present landscape a well-informed CE transition is immediately required.