

# Adapting to Changes in Container Board Making & Corrugating with Growing E-Commerce



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**Abstract:** *We are living in an ever-changing world and using resources from every nook and corner. This is creating a huge impact on our planet Earth. The impact of pollution is already started to creep up with major climate changes resulting in floods, landslides, storms, hurricanes, etc. all over the world. We need more resources every day to meet our needs. This means we are buying from everywhere. Be it shops, malls or online. The online or E-commerce has taken a big leap in the last 5 years resulting in huge demand for packaging. This packaging products range from plastics to paper based which at the end of the day produces more waste. If we are not able to recycle this waste, then we will have a huge imbalance that will impact our planet. Paper industry offers the solution for packaging to prevent this imbalance due to its recyclable nature.*

## Introduction

The demand for corrugated packaging has grown so quickly that the paper industry is not able to keep pace with paper demands for packaging. This is because of the explosion of e-commerce, Covid-19, and major developments in digital printing technologies for corrugated box. The advances in smart phone technology, access to digital services and internet has acted like a catalyst in the e-commerce business. According to Smithers the global online sales are expected to be over \$5.5 trillion in 2023. Major e-commerce industries like Amazon, Flipkart, Walmart, etc. are all launching their door to door services have a major impact on packaging demand, especially in the corrugated industry as it represents 80% of the demand in e-commerce. Figure 1 below shows the predicted

changes in the retail e-commerce sales worldwide from 2019-2025.

The latest data published in pulp and paper news shows that the corrugated packaging consumption will reach 160.5 million short tonnes in 2020 with a value of \$170.7 billion. The graph below depicting the compound annual growth rate (CAGR) from McKinsey shows the change in the global paper market where, communication paper decline is picked up by tissue and packaging industry (Ref. 1). It is predicted that the next decade will be a transformational change in the paper industry around the world.



Figure 1: Retail E-commerce Sales Worldwide 2019-2025

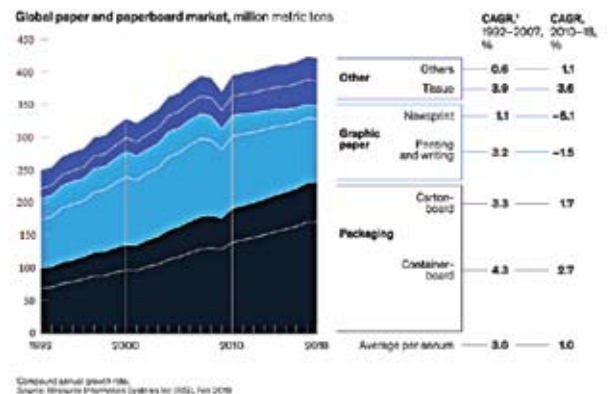


Figure 2: Global paper and paperboard market for different grades

## Discussion

The increase in packaging demand leads to increase in paper demand. The traditional corrugated and paper industry have been challenged to develop products that meet the demand of e-commerce. The packaging paper demand in the US is growing by 2.8% every year (Ref. 2). Paper industry in US has already started to play catch-up with many new paper mills emerging and conversions from newsprint and fine paper to make corrugated medium and test liners. This has increased the demand for Old corrugated containers (OCC) to feed these large mills. The result is a substantial increase in raw material cost. Increasing cost poses a big challenge to the paper mills as they have to work efficiently to produce reliable and strong paper to meet the demands of the present corrugated industry. It is also important to supply lower cost packaging products to prevent diversion from paper packaging and go to other modes like plastics. Sustainable reliable packaging is the key at this moment as the millennials realize the importance of our global environment and the protection of flora and fauna. It is a golden opportunity that the paper industry must capitalize by improving their technology, partnering with corrugated industry and online sales associates to produce sustainable packaging products.

Lightweight corrugated boxes will be the key for future packaging as online buying and home deliveries will surge. This means more home deliveries and concise packaging solutions are needed to carry more deliveries in a given truck volume. This will be the key for online retailers to reduce packaging and shipping costs. Using standard box sizes to package material and then use fillers to ensure protection of products is increasing the cost of shipping and packaging. Retail ready packaging is another popular corrugated packaging trend that we can see as of now. The main reason behind the usage of retail ready packaging is that it will contribute a lot towards cost reductions. Businesses are always concerned about saving their costs. This is where they take a look at retail packaging. This trend is already popular in Western Europe and it is believed that it will not take a long time for it to spread to other parts of the world. One of the best features that you can find in retail-ready packaging is that it has the ability to deliver labor saving solutions. Along with that, these packaging compositions are in a position to reduce overall shelf stocking. Even the package handling expenses can be

reduced by around 50% with retail-ready packaging (Ref. 3).

The focus on minimizing extraneous protective components, retailers are already using the on-demand packaging solutions to reduce cost. The on-demand packaging produces the right size box at the retailer shipping warehouse to ensure minimum packaging cost with no extraneous components like paper or Styrofoam. However, this technology is not so advanced yet where it can be the final solution. It is still work in progress on the technology front. However, the corrugated industry must be ready how to supply when the issues of these systems are resolved. The key word will be light weight packaging. This means the paper industry must be ready to produce lower basis weight with substantial strength to support and protect the product inside these lightweight boxes. Also the corrugated industry will be producing lower height flutes that must produce stronger board to protect the products.

Paper industry needs to invest in latest technologies and high-speed machines to produce packaging paper with lower cost and greater strength. This means they have to look beyond the traditional methods of increasing paper strength especially where 100% recycled OCC is used. Consistent product is required which is handled by robotic technologies that will have less tolerances. Although lot of producers around the world are increasing their capacities and installing new machines & converting machines, they need to think 10-15 years a head of quality demand today. The retailers are already looking at different ways of delivering their products to the households. One of them is the drone technology that is expected to be launched pretty soon in urban areas in the US. The question is at what weight of the package the cost of delivering by drone is feasible. Some numbers that are thrown around is delivering products up to 50 lbs. This means the packaging must be light as well as strong to make this happen.

The demand for recycled OCC is also increasing. This means the cost of OCC has also increased making it challenging to keep the prices of the final products in check. With the increase in liner board pricing for the past one year the cost of packaging is also increasing which might strain the use of paper products (Ref 4). It is important to maintain a reasonable cost so that the advantage is not lost. Also, as more and more used

corrugated containers come back for recycling the quality of the fiber diminishes. Collection and sorting of the recyclable OCC is also challenged as now it will be mixed with other household waste. Many cities and counties around the world do not collect these products separately to keep it clean. To separate these products, it is essential to build Material Recycling Facilities (MRF) which collects all the wastes and segregates them into various streams which can be recycled in one way or the other. This will give rise to circular economy and recover valuable raw materials to recycle like glass, metals, and paper.

## Conclusion

The use of paper in our life will increase in the next decade exponentially as we can see the emergence of e-commerce, environment friendly solutions, lowering carbon footprint and emphasis on recycling and sustainability. We are already seeing paper bags replacing plastic bags. The goal of the paper industry must be to make meaningful reductions in our environmental footprint by focusing on top priorities such as educating our customers on how their choices impact the environment. Sustainability planning for any industry is an ongoing process and a long-term commitment to excellence and continuous improvement. Paper industry must shed the tag of being a polluted industry to a more eco-friendly and sustainable manufacturing technology.

## References

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