

Application Analysis of Digital Printing Technology in Packaging Printing

Fayou Cheng
Wuhan Polytechnic, Wuhan 430074, China

Abstract: Based on the application of digital printing technology in packaging printing as the core, the research is carried out. First, the overview and advantages of digital printing technology are explained, and then the reasons for using digital printing technology in packaging printing are analyzed. Based on this, digital printing technology is proposed. The effective use in labels, flexible packaging and boxes, I hope to provide some reference for relevant people.

1 INTRODUCTION

With the improvement of people's consumption quality and consumption level year by year, higher requirements are put forward for product packaging. The advantages of digital printing technology in the packaging and printing field have attracted the attention of many people. Businesses are also committed to the development of digital printing technology in the packaging and printing field. In this regard, for the application of digital printing technology in packaging printing, the following analysis is launched.

2 Overview and Advantages of Digital Printing Technology

In digital printing technology, it mainly includes: electrostatic imaging digital printing technology, inkjet imaging digital printing technology and magnetic imaging digital printing technology. First of all, research on electrostatic imaging digital printing technology. According to its technical characteristics, electrostatic imaging digital printing technology is also called electrophotographic technology. The main technical principle is to generate electrostatic latent images based on light conductors and use laser scanning technology. The effective effect of the latent image is to visualize the latent image. The small particles of powder are adhered to the set paper under the corresponding technology to form an image, and finally the printing work is completed; secondly, the inkjet imaging digital printing technology is researched (Ji,Li,2019) The principle of this technology is to use small droplets of ink to regularly drop on the setting paper under the corresponding technology to form a set image, and eject various colors of ink according to the corresponding control, and print a variety of colors. Finally, research on magnetic imaging

digital printing technology. The principle of this technology refers to that the magnetons of magnetic materials are arranged in a directional manner to form a magnetic latent image, and then use the influence formed between the magnetic color and the magnetic latent image to promote its latent image energy to achieve visualization.

The application advantages of digital printing technology in packaging printing are mainly reflected in the following aspects: First, the printing efficiency is higher. Compared with the previous printing technology, digital printing technology has gradually transformed the traditional plate-making technology into a digital format, which not only effectively simplifies the printing process, but also improves the printing efficiency. Moreover, according to the relevant survey results, the digital printing technology can produce up to 8000 sheets/h of A4 paper under normal conditions, and it can also realize printing automation according to the actual instructions received; secondly, printing is convenient and fast. Digital printing technology does not have relatively clear requirements for file formats, and can provide corresponding support for the printing of multiple formats of files, thereby effectively saving the processing time of graphic information in the form; finally, it has strong personalization. Digital printing technology can effectively meet customer printing needs that cannot be achieved in traditional printing technology, and has strong personalization in actual work (Pan,Liu and Yin,2019).

3 Reasons for Using Digital Printing Technology in Packaging Printing

3.1 Product Traceability and Anti-Counterfeiting

If we analyze the application of digital printing technology in packaging and printing from a simple level

272130912@qq.com

of meaning, its representative meaning is to print the QR code of the product on the packaging, the purpose is to give the product a personal "identity", and based on relevant data Information supervision and tracking, product production, warehousing, distribution, and logistics provide a scientific and effective way for merchants and manufacturers to track and manage the quality of the product. At the same time, it can also facilitate the development of after-sales service activities. Once quality problems are found, relevant staff need to be able to deal with them in a timely manner, and ensure that the economic and social benefits of the merchants and manufacturers themselves are effectively obtained. In addition, consumers can also scan the QR code to obtain relevant information about the product, so as to effectively identify the authenticity of the product and ensure that they will not be deceived.

3.2 Virtual Reality Technology

The so-called "virtual reality" refers to the virtual world created by the computer. In this virtual world, users can feel immersive. The use of virtual reality in packaging focuses on product promotion . For example, if a user wants to carry out an activity or sell a certain product, after the design is completed, the camera can be directly pointed at the trademark of the product, and the product information and logo added in advance can be seen after the alignment, such as video Or other image materials, etc., so as to give consumers a novel feeling and experience, in order to achieve the purpose of marketing. Digital printing technology using virtual reality marketing methods can be realized in packaging printing(Zhang,2019). At the same time, virtual reality information can also change according to product changes, ensuring that users can obtain information at any time during use, which not only saves time and effort, but also improves user participation. For example: You can organize more lottery activities. When the user reads the three-dimensional information specified by the organizer, it can be regarded as winning.

4 the Effective Application of Digital Printing Technology in Packaging Printing

Based on the effective application of digital printing technology in packaging printing, a more in-depth analysis is carried out, which includes: the use of labels, the use of flexible packaging, and the use of boxes.

4.1 The use of Labels

In the current fierce market competition, if you want to improve your core competitiveness and stand out, you need to speed up the update of their products and pay more attention to packaging cover design. The most distinctive packaging cover design industry at present includes: Pharmaceutical, consumer goods and food industries, etc. According to the current application status

of digital printing technology in packaging printing, it can be seen that some product suppliers have higher requirements for the novelty and uniqueness of labels, hoping to obtain novel label designs in the shortest possible time. At the same time, some enterprises and group departments are still focusing on the marketing and publicity of their own image in their development, and even hold events at some special festivals to further promote their own corporate image. Generally, they will receive a small The way of gifts, although the amount of gifts is not very large, but it has important representative significance. Therefore, it is necessary for relevant personnel to pay more attention to the outer packaging and printing of the product, not to give people a phenomenon of price drop, but to fully demonstrate its novelty(Liu,Yang and Wang,2019). The selection of printing in this process is particularly important. If the personnel use the traditional printing method before, not only need to wait a long time, but also need to spend a lot of cost, which is unable to meet customer needs in the short term. Therefore, digital printing has become the first choice of personnel because of its advantages of not requiring typesetting and printing in small quantities. It can be seen that digital printing technology fully embodies the advantages of flexible operation and cost-effective operation in the production of new product packaging labels, and can effectively meet the diverse needs of consumers.

4.2 Application in Flexible Packaging

Nowadays, traditional rigid plastic packaging has gradually transformed into flexible packaging. As the overall growth rate increases, the demand for digital printing is also gradually increasing. Simply put, if you want to develop the flexible packaging market, you need to focus on improving the printing speed, and the digital printing speed is proportional to the scope of its application. The faster the speed, the wider the scope of its application. The slower it is, the narrower its application range. Especially with the continuous reform and development of digital printing technology, traditional printing technology has been gradually replaced by digital printing technology, and it has also withdrawn from market development. The rational use of digital printing technology can not only increase the frequency of application in standard boxes and user-specific packaging, etc. At the same time, it can also save production costs, but while saving production costs, it is necessary to ensure the printing quality and speed, and then promote the development of digital printing technology in the field of flexible packaging.

4.3 Application in Boxes

In the process of digital packaging printing, compared with other products, the box product has a certain universality, and different from other products, the printing area of this product is relatively large, not only requires a lot of cost, but also pays attention to the type of color Selection, once the carton starts printing

operation, it cannot be changed in the job. Therefore, before officially starting the construction, the staff should communicate with the carton manufacturer in detail, and after the printing content is clarified, the printing work should be started. At present, there are many printing equipment that can be used in box products, and the printing speed is extremely fast. For example, for the use of color digital printing presses, printing operations can be performed by folding cartons. The average number of prints per hour is about 63 sheets, and the resolution is as high as 600dpi.

4.4 the Future Development of Digital Printing Technology

According to the current development status, it can be seen that although digital printing technology has been developed in China, there are still many shortcomings in the development. On the one hand, the evaluation level of printing quality is less, and on the other hand, it is related to the developed The overall development level of the country is relatively backward, and both the printing equipment and the later maintenance are mainly imported, which invisibly increases the cost burden of the printing industry. Based on this, in order to fully highlight the overall development prospects of digital printing technology in the future, major domestic enterprises should focus on the market construction of the project, and promote the production of digital printing equipment, which can show its obvious serialization characteristics. In the future development, quality and serialization may still be the characteristics of digital printing technology. In addition, in the context of the current rapid social and economic development, digital printing is regarded as the project with the most investment value and investment significance, but from the actual development status, it can be seen that the digitalization, integration and short printing cycle characteristics of digital printing technology play , It also needs to cooperate with other related technologies to promote the further development of the printing industry(Feng,2019).

5 CONCLUSIONS

All in all, with the continuous improvement of people's quality of life, people have put forward higher requirements for product packaging. Especially for companies, it is necessary to introduce advanced printing technology to give people a visual impact from product packaging. This will stimulate consumers' desire to buy. In this regard, on the basis of mastering the reasons for using digital printing technology in packaging and printing, through the effective application of digital printing technology in packaging and printing such as labels, flexible packaging, boxes, etc., promote the development of enterprises.

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