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Customizing Messages on Packages for Target Group Communication

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Abstract: Customization has become a big trend in many fields. You receive advertisement at home that are targeted at you personally and printed with your name. Customization is also seen e.g. in the field of fashion and even cars. This all indicates a growing tendency to differentiation. It is interesting to explore this trend and its possibilities also in consumer packaging. Traditional printing methods have not given a good tool to customize packages. However, the development of digital printing methods with the general demand of shorter series has changed the situation.

The concept of customized packaging designs offers plenty of ways to add value into packaging. On packaging messages can be personalized for specific target groups or even one particular person. This gives completely new possibilities e.g. for marketing. It offers more alternatives and better service to different consumer groups – knowing different things appeal to different consumers. Digitally printed customized messages on packages can also be used for campaign products when for example competitions are arranged or different design layouts are needed in trial marketing. In addition, because of the limited space in packages, tailoring different text version for different language areas is more and more needed in international trade. Also, using very flexible digital production, last minute changes make possible to add packages relevant, up-to-date and highly focused information for different consumer groups.

In this article, results from VTT's digital packaging printing research project will be presented. Our technical focus has especially been the utilization of inkjet printing in new packaging applications. Using digital printing as a tool for customizing messages on packages will be explored.

Keywords: packaging; printing; customize; digital printing

1. Introduction

1.1. Background of the study

This paper is based on a study part of larger project on packaging communication called Messenger Package /1/. The project focuses on integrating technology, marketing and design know-how, and has three key research topics: technology tools for more efficient package communication, the communicative and strategic aspects of package design, and consumers' preferences and attitudes to packages. The technology part of the project focuses on digital printing possibilities in consumer packaging. VTT has long experience in the field of digital printing in different application areas e.g. publication products, packaging, fabrication and functional printing.

1.2. Definitions

Customizing

Customize (synonyms customise, custom-made, tailor-made) means making specifications or making something according to specific requirements. In short customizing means modifying. In printed products field customized is defined as a printed piece targeted at a certain group of people /2/. The most typical way is to have either text or images customized. Essentially the copy and image are static (will not change) but in some copy or image or both change, and a quantity of them are produced /3/. Many customized documents are produced by printing the static elements on a press and then imprinting these shells on a digital device /3/. This is also called versioning. A lot of versioned printed products are digitally printed on offset litho printed shells, for example almost all direct mail and transactional materials /3/. Sometime the customized content is personally relevant in which case that product is both personalized and customized. When adding personal information such as the recipient's name, street address, or a picture you have created a document that is both customized and personalized /2/. Customization and personalization are often used interchangeably, but personalization refers to customization according to specifications of one certain person. Levels of customization are explained in *Table 1*.

Target group

Target groups are seen as groupings of consumers who share similar qualities in consuming behavior /4, 5/.

The concept of target group was introduced in 1950's and from then on became very used in promotional campaigns /4/. The concept refers to a specific market segment or part of it defined by the marketer /4/. The

target group is the group of consumers, decision makers or companies towards whom the marketing and information policy is directed /5/. Targeting and segmenting are used as tools for categorization and classification of the potential consumers. At the simplest classifying people on the basis what they buy and consume /4/.

Table 1. Levels of customization

CUSTOMIZATION			
PERSON LEVEL		**GROUP LEVEL**	
Custom-made (tailor-made) for a specific person	"Mass product" customized according to person specifications	Customized for a specific target group	Different versions of a "mass product" for more than one target group (versioning)

2. Research method

The research subject was studied based on research on packaging development and digital printing. The study included company interviews and a workshop focusing on consumer profiles and possibilities of target group communication in packaging. The workshop was participated by company representatives, researches and students with different backgrounds in technology, design and marketing. In total 16 persons participated in the workshop. In the workshop four different consumer packages were examined with the question "how to customize each packaging for four different consumer profiles". In addition, the study included a literature review to complete the results from the workshop. The conclusions were made after considering all the gathered information from literature and other public resources, the workshop and utilizing the results from VTT's long-term research on digital printing.

3. Results and discussion

3.1. Functions of customization

Customizing has become a big trend in many fields. Advertisement delivered to peoples' home are targeted at them personally and printed with their name. Customization is also seen in fields such as fashion and even cars. This all indicates a growing tendency to differentiation.

In the media sector the power of targeting is seen even as a key to survival /6/. The media sector has been going through many changes and generalized marketing is no longer enough in all cases. Messages need to be targeted towards a specific group, with the right message, at the right time /6/. It is seen that marketing in print media has changed from meeting customer needs more to building relationships /6/.

Currently customization is exploited in printed products and one big area is direct mail. Direct mail pieces are now able to be personalized to each and every re-

cipient. The use of personalized direct mail has shown to give around 20 to 40 percent increase in response rates, average order size, and in response time /6/.

In packaging on the other hand, customizing has yet been very limited. One reason naturally is that conventional printing methods have not given a good tool to customize packages. However, the development of digital printing methods with the general demand of shorter series has changed the situation. Most used and well-know examples of consumer packaging customization have been the cases, in which it has been possible for a consumer to order products in a packaging with their own chosen picture or design. This approach has been used by for example Heinz, Kleenex, Sprite and Heineken. Also a simple example of using versioning in packaging is making different language versions.

In the near future the percent of packaging applying customized approaches is expected to increase significantly and take place from static solutions /3/. Customizing packaging prints has various possibilities. Besides from providing product information for end-users in their own language customized packaging prints can serve also other functions of packaging. Messages and information printed on packages are there for information, marketing, branding, convenience, safety and supply chain management reasons. It is possible to address customization to serve any of the packaging functions /7/. A scenario on customization possibilities of packaging prints for different functions of packaging is presented in *Table 2*.

Table 2. A scenario on customization of packaging prints for different functions of packaging /7/

Customization of Package Print for Different Functions of Packaging			
Information	**Marketing & Branding**	**Safety**	**Supply Chain Management**
Language versions	Target group marketing	Individualizing & coding	Flexibility
Up-to-date information	Design changes at short notice	Anti-counterfeiting	Decrease of stock and inventory
Personalization	Campaign products & competitions	Authenticating	Shorter series
Print variations - ease to add new markings	Fast response to changes in consumer behaviour	Anti-theft systems	Faster to market
Targeted messages & instructions	Trials	Changing regulations	Lower lead times
	Various brands		Less waste
	Functional features		Decentralized production

Customizing packaging designs and on-demand production of packages changes also supply chain management, especially warehousing. From the company interviews a clear indication is that brand owners want to

have smaller amounts of packages, but conventional printing houses can not deliver these. For this reason thousands of packages have to be ordered at once, because it is the smallest amount of packages that a printer and/or a package converter are willing to deliver. Nobody wants to have too much packages in stock, because storing different package versions is logistically challenging and very expensive. But in reality many packages stay in a warehouse for years before they get used. Many times these packages go out-of-date and are thrown to dump in the end. Stock production is also a very inflexible way to produce packages. This is a clear limitation, because packaging designs change many times faster than a product itself. In addition, production of seasonal and campaign packages can be a challenge. Generally the relationship of packaging and the product is interesting when exploring customizing alternatives.

3.2. Dimensions of packaging customization

Packaging communication and messages on packages are not limited into text and images on packages. Packaging communication refers to all the messages packaging sends to consumers. These messages are the result of combinations of different packaging design elements. The packaging design elements constitute of a wide range of elements including: color, shape and structure, images, words (text and typography), material, patterns, symbols and size /8,9,10,11/.

According to the results of the workshop customizing packages for target groups with specific characteristics could include modifying all of the packaging design elements. Elements mentioned in the workshop are listed in *Table 3*. In the table packaging elements are examined based on whether they are possible to modify by printing methods.

Table 3. Dimensions of packaging customization – printed and other elements of packaging

Printed	Other
images	material
words, text, typography	size
colour	shape & structure
contrast	
symbols, logos	
surface pattern	
scent	

Naturally all printed elements in packages are possible to be modified by printing. These include most of the packaging design elements, even surface patterns and scents are possible to modify by printing techniques. Customization that includes changing the material, size or shape of the packaging are very different kind of ap-

proaches and require changes in material acquisition and packaging manufacturing systems.

Based on the results of the workshop packages were found to have certain key characteristics that are important regardless of the target group. Most importantly the characteristics that are related to convenience and especially the ease of use e.g. easiness to open, close and pour, were felt important for all target groups and not as means of customization. In addition, customization is not to be used to point fingers at anyone and is not appropriate for every situation e.g. consumers do not wish companies to have information on their private issues such as medical conditions or bad habits /6/.

3.3. Digital printing as a tool for customizing packages – exploring execution possibilities

Digital printing methods are technologies where print is generated without a print original (printing plates or cylinders), straight from a computer. The benefit of this is that every printed sheet can be different. The most important digital printing methods are electrophotography and inkjet. The two most important aspects of digital printing are the option to customize every printed document and the ability to produce one document at a time. In on-demand package production, production of packaging or the whole product does not start until the order has been received.

During recent years, inkjet printing technology in particular has developed rapidly and nowadays digital printing presses that match the speed of multicolor screen printing machines have been built and there is not much speed gap between digital printing and offset lithography. Possibilities to carry out digital package production printing are getting better every year. Digital printing has estimated to have around 10 percent market share of the package printing market at the moment.

There are three possibilities to utilize inkjet printing in packaging production. In the first case, the whole packaging is printed digitally and print design of every printed packaging can be 100 percent different. There are several relatively large volume inkjet printers for this type of packaging applications on market at the moment. Very accurate version control has to be maintained in short run package production during printing, filling, storing and delivery, in order that the right packages will end up to the right place.

Another way to utilize digital printing in packaging production is to use inkjets to add variable information onto pre-printed packages, which are often printed with conventional methods. There are several new, high-speed printing machines on market, in which inkjet has been integrated with flexography or screen printing.

The third possibility to utilize the flexibility of inkjet technology is to place inkjet heads in the packing process before or after packing. The benefit of this approach is that the printing can be integrated as an inseparable

part of the packing process to avoid expensive manual work and to gain the greatest benefits from digital package production. The downside is that if there are any problems with the printer, it will affect the whole packing line. At the moment, a typical packing machine integrated inkjet printer just adds some additional text into packages, but in the future, the whole packaging design can be printed on line.

One challenge in digital package production is converting. Different packages require often their own production lines, because many converting stages, like folding, gluing, filling, varnishing, die-cutting and scoring, are needed. Because the digital package production is a new concept, converting machines often have to be developed or at least tailored as a part of a digital manufacturing line development project. During recent years, also many small volume converting machines, suitable to be used with inkjet print machines, have come to market.

When digital print quality is compared to conventional printing, brand owners have said that it is a very positive surprise and digital quality can even be better than quality of offset lithography or flexography. Inkjet print quality has developed very rapidly during last years, but there are some special requirements in packaging area, like need of special colors (e.g. gold, silver or copper), which still wait to be fulfilled. Also lowering printing costs, especially ink price, would help to make inkjet more widely used printing technology also in packaging area. At the moment, it can be cheaper to print 100 000 labels digitally than with conventional printing. The costs are though very case depended. When printing area increases competitiveness of digital printing decreases rapidly. This is due to considerable higher ink price of inkjet printing.

4. Conclusions

Packaging applying customized approaches is expected to increase significantly in the near future. Consumers can be divided into a multitude of categories and target groups and at the same time building a relationship with consumers has become more important. Information about a company's target consumers must be obtained to know how to communicate, what time to communicate and with what information to communicate.

To this day we have seen little use of customizing messages on packages for target group communication. There are several possibilities to use customization for different functions of packaging and most of them are feasible by present printing methods. However, customization is not suggested as a solution in every situation and could with a wrong message result irritating the consumer instead of building their loyalty.

Digital printing methods offer a tool for customizing printed packaging design elements. With digital printing methods every piece printed can be different. The short run production is also a very competitive option, because of cost savings and less need for warehousing. Using packaging customization in new ways requires co-operation between different fields: vast knowledge of printing and packaging technologies, consumer research for knowing the target groups and creative marketing ideas for generating innovative solutions.

5. Acknowledgment

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