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Spotlight on the Standards & Norms

in the Graphic Arts Industry

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Preface

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Preface

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The Basis for International Communication and Media Production

Standards and norms are the foundations on which commercial thought and action are based. At least if the aim is to achieve seamless collaboration. To put it another way, if a company's product needs to undergo further processing or if bought-in parts need to be used, standards and norms are a good place to start.

Standards and norms make it easier to understand and do business with others. For example, in more than 25 countries around the world people order copy paper as per ISO 216, which resulted from the German industry standard DIN 476. Instead of 210 × 297mm, it is simply called "A4". In North America the standards of the American National Standards Institute (ANSI) are used, with "letter" referring to the 8½ × 11 inch or "ledger" to the 17 × 11 inch format.

In Everyday Life

We can see the benefit of standards every day whenever we use a plug and socket connection – whether it's using headphones in an MP3 player or a 220 or 110 V socket for electrical equipment. Here standards will ensure that the equipment will function as expected, instead of going up in smoke.

So, standards and norms safeguard assets and investments. They facilitate simple, straightforward and seamless cooperation across borders. Where could such a solid foundation be put to better use than in communication? If there were a single global language, for example, people all over the world would be able to understand each other in an instant. But as that stage has not yet been reached, here in this publication we will have to restrict ourselves to just one aspect of communication – the part that relies on graphic media.

For Communication and Brand Management

Graphic media are used to communicate right around the world, from printed media to the World Wide Web (WWW). It would be impossible to pin down just how much communication is carried out in this way, but the number of Web pages that could be accessed via search engines in 2005 was put at 11.5 billion! In 2007, the amount of paper used in Germany alone was around 21 million tons. Of that figure, 47% was graphic paper and 41% packaging. 18.5 million tons of paper was used in Germany for communication purposes, the majority of which was concerned with products and services – in other words, with transferring brand information.

The value of a brand should not be underestimated and is often on an equal footing with the value of a company as a whole. International trademark holders see the quality of their brand and product images as extremely important. They can be the decisive factor in determining the success of the product to be sold whether they appear in adverts or on packaging. The graphic arts industry is an essential partner in the effort to convey high-quality product and brand images, playing an integral role in providing information to facilitate the sale of products and services and using graphic media to communicate the message.

In Integrated Media Production

Printed media and the WWW are not the only ones to benefit from standards and norms. Globally applicable standards also safeguard the value of content, i.e. of the communication itself. However, every chain is only ever as strong as its weakest link and the "media production process chain" is no different. In our consultancy projects we strive to ensure that all companies and agencies involved in media production develop the same strengths, whilst also establishing standardised procedures and interfaces. For this reason we gather all parties – both clients and service providers – around the table. We consider this as the only way

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> *Standards and norms are the foundations on which commercial thought and action are based.*

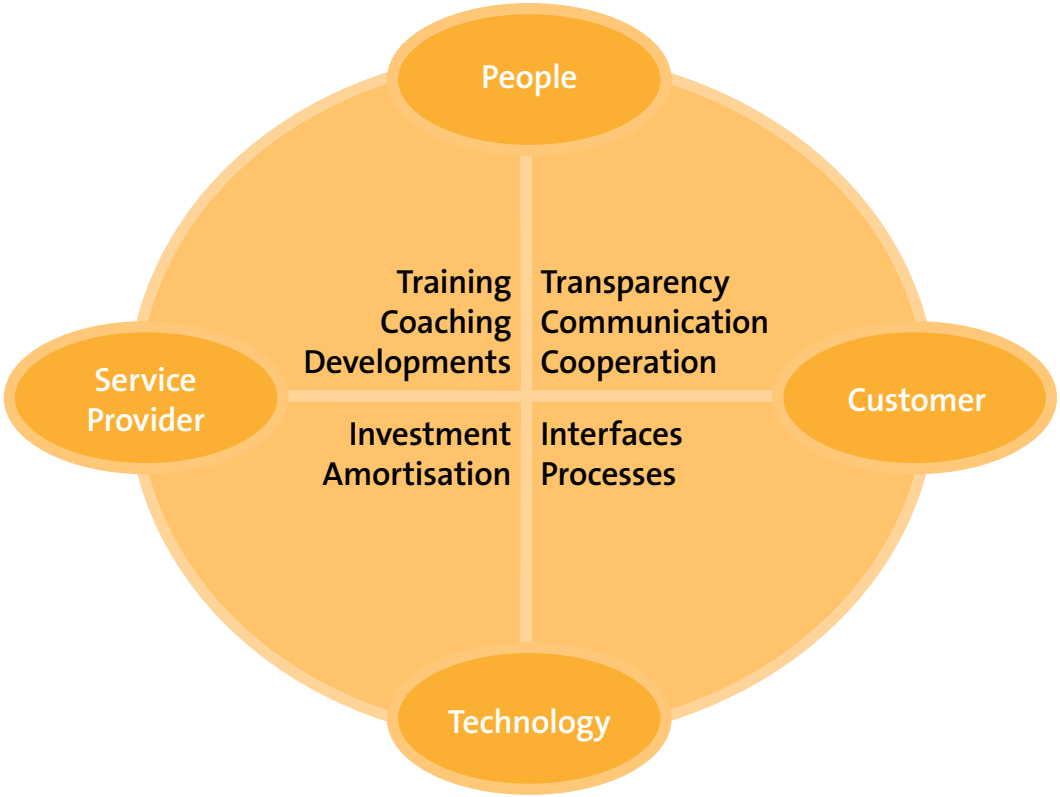
to safeguard that the precious goods, being the company's brands and product information, will not be packaged incorrectly or even damaged.

Basing one's work on international standards and norms is actually a great opportunity. In addition to ensuring that the data and products supplied can be used around the world, this approach also safeguards any investments made in technology and training.

Dealing with "international standards and norms in the graphic arts industry", this publication illustrates the various aspects to be considered when using such standards and the benefits of doing so to all concerned.

We hope you enjoy reading the contributions and that they give you plenty of food for thought.

Thomas Müller
Senior Coach and Consultant for Communication and Media Production



Areas of Action and Conflicts in Media Production – Standards for the Graphics Arts Industry as Guideline to Success

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Additional Information

value!netzwerk gmbh is a network of consultants and resources for the graphic arts industry and its clients. The consultancy business focuses on bringing together the factors proven to bring success in graphic media production, and their interfaces – both technical and human.

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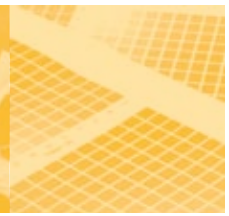

Are Standards relevant for the Graphic Arts Industry?

Prof. Dr.-Ing. Klaus Thaler, Print Media Management, Hochschule der Medien, Stuttgart / University of Applied Sciences Stuttgart, Germany

HOCHSCHULE DER MEDIEN

Are Standards relevant for the Graphic Arts Industry?

— From manual to industrial media production

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As a result of increasingly stiff international competition, the graphic arts industry is currently undergoing a transition from manual to industrial media production. The rising demands in terms of competitiveness and profitability that are being made of all players at all stages of the media value-added chain come down to the three performance factors of quality, cost and time, traditionally mapped as a triangle of competing forces:

- Nowadays it is common for media production clients to demand proof of quality, in the form of certification, for example. The demand for consistent processes, the most recent being the request for transparent workflows, is also fully understandable in terms of ensuring quality.
- In terms of the "cost" performance factor, pricing pressure is forcing many media service providers to optimise their processes in a systematic fashion. Increases in costs, often due to higher operating expenses, have to be absorbed by implementing appropriate rationalisation measures. A number of service providers are feeling the effects of the globalisation and even fragmentation of the market. The situation is being exacerbated by a shift that is seeing online media generate more and more sales to the detriment of print. Therefore many providers are having to customise the services they offer.
- As many types of media are being produced ever faster and to ever shorter deadlines in order to keep pace with the market, the time available for making production profitable is being squeezed all the time. Many customers also require continuous change management, e.g. in the form of short-notice changes that have to be implemented efficiently and effectively.

The importance of standards

In German, the terms "Norm" and "Standard" refer to two different things. "Normen" are recognised technical rules that are based on consensus and drawn up by standards organisations in accordance with defined principles. "Standards" are usually created before "Normen" and can be developed by a few companies working together, or even by a single company.

In many sectors of industry, strategies and concepts for standardising products and processes are applied as a means of rationalisation. Product standardisation aims towards a modular principle in applying consistent, modular product design to maximise the number of versions available whilst minimising the number of identical blocks. In order to standardise processes, "similar" steps and procedures have to be identified, modified in accordance with best practice and, in many cases, monitored on an ongoing basis.

When it comes to achieving good-quality production, a high level of process stability is very important (i.e. production equipment must be available and reliable). A production process which can demonstrate a high level of resistance to faults and failures is considered to be reliable and stable. Reliability is defined as the probability that a failure will not occur within a given time period.

Particularly in the manufacturing industry, characteristic values are calculated for "machine capability" and "process capability"; here are two examples:

- Machine capability Cm: characteristic value representing the manufacturing capability of a particular item of production equipment within the required tolerance range
- Process capability Cp: characteristic value representing the spread of process results within the tolerance range

Varying customer requirements in terms of product and process standardisation

There are various ways of standardising products and processes for numerous print media products:

- Periodicals such as newspapers, magazines and other products from publishing houses are largely distinguished by the continuous creation of new editorial content and a product design that can be standardised relatively easily. The process is characterised by its repeatability. The integration of images and adverts is also significant.

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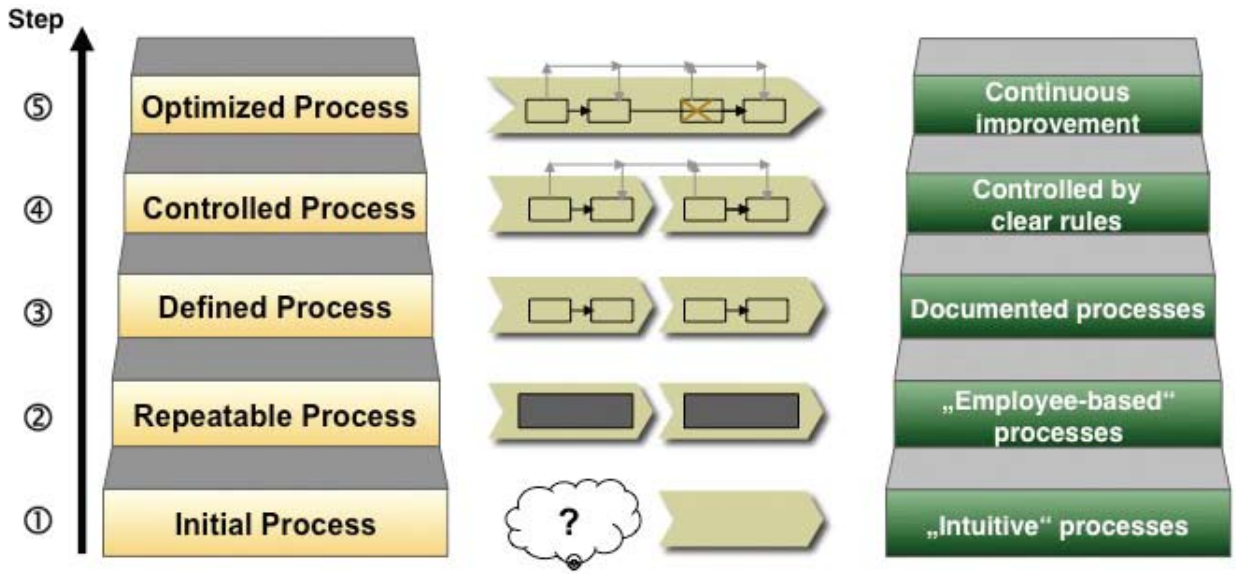
“The best supply chains – not individual companies – will win through on the markets.”

- Packaging is relatively easy to standardise, although it often has to be manufactured in accordance with a number of customer and industry-specific requirements. High demands are placed on packaging, e.g. in the form of low levels of rejects or extremely durable adhesive bindings. The relationship between CAD specifications and blanks is characteristic in this context.
- The transfer of a wide range of data from CAD and ERP systems is typical of the advanced production processes used to print industrial material such as product flyers, machinery catalogues or technical documentation. Appropriate standards are needed to regulate this transfer of data. Safety requirements are becoming more important (e.g. product liability in Germany: if defective products such as operating instructions are supplied which result in property damage or personal injury, this can be extremely expensive for the service provider, not only in financial terms, but also in terms of public image).
- The content of specially designed catalogues, travel brochures and image catalogues whose layouts can only be standardised to a certain extent is increasingly being imported from image databases. A complex design and associated stringent requirements in terms of quality standards are typical of these products.



Standardised processes are accomplished after 5 steps of maturation

- Corporate publishing products such as financial publications, annual reports and corporate brochures are largely characterised by high demands in terms of print quality and topicality. The processes for creating such products are usually complex and workflows are specified together with customers, often on a global basis. Corporate logos and colours place high demands on quality assurance here too.
- Traditional advertising material, particularly in the field of retail communication, cannot be very well standardised. Due to the range of designs, materials and methods available, no two jobs are ever the same.
- Loose-leaf collections, for example for legal texts, pose particular requirements because they usually have to be produced in very small print runs as one-off orders. Bearing this in mind, standardisation according to the "modular principle" has an important role to play here.
- Web-to-print products, media that are used for tailored communication, are characterised by a high degree of customisation, i.e. the content and scope of the product is modified according to the target audience. This makes it possible to produce cost-effective derivatives.

In what areas are standards gaining in importance?

The relevance of standards and the implementation of quality assurance measures will clearly depend on the size of the company in question, as has been shown in a study conducted by Dr.-Ing. Klaus Thaler (see Literature). Only 65% of companies with fewer than 10 employees think it essential to put quality standards into practice; for companies with more than 100 employees, that percentage rises to 85%.

The degree of digitalisation in prepress work is growing considerably. As traditional film exposure is dying out and CTP technology is becoming more widespread, standardised processes and employee training are gaining in importance. Standards: e.g. PDF/x-3, BMECat.

Certification and enhanced process capability are becoming more and more significant to the printing industry. Of the companies surveyed for the study cited above, only 12.5% stated that they were certified to DIN EN ISO 9000. 52% do have the certification and 35.5% intend to work towards it. Potential standards: DIN EN ISO 9000, ProcessStandard Offset, JDF.

Automated proofing and colour management are also playing an ever more important role. The study showed that 50% of the companies surveyed do not use colour management. The other 50% use immediate fault correction and 100% checks for quality assurance purposes.

According to the study, 2/3 of the companies see making employees feel really involved in the business and providing them with training as good ways to safeguard quality. Just under 55% of the companies surveyed have a process in place for analysing the causes of faults. Zero-defect production is viewed in a positive light by 66.5% of those surveyed, although only 1/3 see the prospect of lowering their non-conformity costs as being beneficial.

Conclusion

Markets and products in the graphic arts industry have undergone seismic changes in recent years. Communication and processes have become many times more complex than they were previously. As competition around quality, cost and time is so high, standards are a decisive factor when it comes to the success or failure of a company. Therefore it is absolutely essential that process capability is improved significantly, as it already has been in other industries. There have been many developments and much has been achieved in this area in recent years. However, tried-and-tested process standards are ultimately the only way to build confidence in the industry and allow companies to demonstrate their expertise to customers.

Additional Author Information

Klaus Thaler is a Full Professor at the University of Applied Sciences Stuttgart (HdM) in the field of Process Planning and Simulation, Organisation and Project Management. He has been a Full Professor at the University of Applied Sciences (FHTW) Berlin from 1995 - 2002. Until 1995 he worked at the largest German Applied Research Organisation, the Fraunhofer-Institute as a Senior Scientist. He specialises on planning, organising and optimising business processes in different branches such as media, electronics, machine building and retail . He is working on concepts and the application of methodologies for supply and distribution management (SCM), supplier integration, and on computer-integrated solutions with companies such as Daimler, SAP, IDS Scheer, Siemens and with many smaller enterprises. Prof. Thaler holds a degree in Computer Science from the University of Stuttgart and a Ph.D. in Industrial Engineering.

Bibliography: Short study Quality Assurance in the Graphic Arts Industry, University of Applied Sciences, Stuttgart, 2006
(Download: http://www.hdm-stuttgart.de/~thaler)

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