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## The Global Impact of JDF on the Graphic Communications Industry

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## Table of Contents

I.	Executive Summary.....	6
II.	Research Objective.....	8
III.	Findings.....	14
	1. Printing vendors have a higher adoption rate and motivation to implement JDF than printers .....	14
	2. The U.S. and rest of world printers have a higher adoption rate and motivation to implement JDF than printers in China .....	17
	3. Lack of communications about JDF implementation between printing vendors and printers appears to be a primary cause for the slow adoption rate by printers in the field .....	18
	4. Printing vendors have not fully responded to the strong demand for JDF implementation .....	21
	5. Focus by printing vendors and printers on JDF implementation were not complete and balanced.....	25
IV.	Concluding Remarks.....	27
V.	References.....	28
VI.	Acknowledgements.....	28
VII.	About The Electronic Document Systems Foundation (EDSF).....	29
VIII.	About California State University, Los Angeles and Wuhan University.....	29
IX.	About the Research Team.....	31
X.	Appendix.....	33
	Appendix A: Survey Cover Letter.....	34
	Appendix B: Survey Questionnaire (English).....	36
	Appendix C: Survey Questionnaire (Chinese).....	39

## List of Tables

<i>Table 1 - Type of Primary Business of Participants' Companies.....</i>	<i>11</i>
<i>Table 2 - Size of Participants' Companies (Printers).....</i>	<i>12</i>
<i>Table 3 - JDF Implementation.....</i>	<i>14</i>
<i>Table 4 - How Vendors Think that JDF will Eventually be the de facto Standard.....</i>	<i>15</i>
<i>Table 5 - Reasons for Printers not to Implement JDF.....</i>	<i>18</i>
<i>Table 6 - Printers' Ranking of Weaknesses of JDF.....</i>	<i>19</i>
<i>Table 7 - Vendors' Driving Force for JDF Implementation.....</i>	<i>21</i>
<i>Table 8 - Printers' Reasons for Implementing JDF.....</i>	<i>23</i>
<i>Table 9- Printers' Satisfaction about JDF (5.0 point scale).....</i>	<i>24</i>
<i>Table 10 - JDF Implemented Processes.....</i>	<i>25</i>

## List of Figures

<i>Figure 1 – The Integration of JDF Workflow, MIS, and EDI.....</i>	<i>9</i>
<i>Figure 2 – Type of Primary Business of Participants’ Companies.....</i>	<i>12</i>
<i>Figure 3 – Size of Participants’ Companies (Printers).....</i>	<i>13</i>
<i>Figure 4 – JDF Implementation.....</i>	<i>15</i>
<i>Figure 5 – Why Vendors Think that JDF Will Eventually be the de facto Standard.....</i>	<i>15</i>
<i>Figure 6 – Reasons for Printers not to Implement JDF (Number of checks).....</i>	<i>19</i>
<i>Figure 7 – Printers’ Ranking of Weaknesses of JDF (Higher scale number = more important).....</i>	<i>20</i>
<i>Figure 8 – Vendors’ Driving Force for JDF Implementation (Number of checks).....</i>	<i>22</i>
<i>Figure 9 – Printers’ Reasons for Implementing JDF (Higher scale number = more important).....</i>	<i>23</i>
<i>Figure 10 – Printers’ Satisfaction with JDF (5.0 point scale).....</i>	<i>24</i>
<i>Figure 11 – JDF Implemented Processes (Number of checks).....</i>	<i>25</i>

## **Executive Summary**

Job definition format (JDF) provides an open and automated workflow for print production. Printing vendors should expand their efforts to focus on the development of JDF technology.

### **Objective**

The primary objective of this research effort was to determine the global impact of JDF on the graphic communications industry and the adoption trends within the graphic communications industry for this new technology. This research also compares the graphic communications industries in the U.S., China, and the rest of the world regarding the adoption of JDF.

### **Approach**

This research included a two-stage research process. The first stage focused on an exploratory investigation comprised of in-depth interviews with industry experts both in the U.S. and China. The second stage was a Web-based survey. A Web-based questionnaire was developed based on the review of literature and in-depth interviews with industry experts.

The survey cover letter with the URL link was sent to members of CIP4, PrintPlanet Forums, and DavesForums.com Forums courtesy of Mr. Dave Mainwaring. The CIP4 membership base is comprised of 1,211 representatives of 300 member companies. PrintPlanet Forums have 53,184 members and DavesForums.com Forums have 701 members. Both PrintPlanet Forums and DavesForums.com Forums are all individual memberships. Because this was a company-based survey, and 109 responses were received from 300 companies of CIP4, PrintPlanet Forums, and DavesForums.com Forums members, the response rate was 36%.

The Chinese version of the questionnaire was sent to 364 companies in Beijing, Shanghai, Guangdong, Hong Kong, and Wuhan; 95 responses were received from 364 companies in the China area yielding a response rate of 26%.

### **Key Findings**

1. Printing vendors have a higher adoption rate and motivation to implement JDF than printers.
2. The U.S. and rest of world printers have a higher adoption rate and motivation to implement JDF than printers in China.
3. Lack of communications about JDF implementation between printing vendors and printers appears to be a primary cause for the slow adoption rate by printers in the field.

4. Printing vendors have not fully responded to the strong demand for JDF implementation.
5. Focus by printing vendors and printers on JDF implementation were not complete and balanced.

It should be noted that this is the first time research has been attempted on a global basis on the effects of, and intent with respect to, adoption of JDF. The original intent was to compare the U.S. and China, but due to the global nature of the printing industry today, survey responses were received from around the world. While the numbers received from areas outside the U.S. and China, designated here as “Rest of World,” were small enough to not represent a statistically valid sample, they were included in this research to provide a flavor for what is going on in those regions.

As the momentum continues to build worldwide around JDF and computer integrated manufacturing for the printing industry, it is the recommendation of the research team that a follow-on research project take a more in-depth, global look at what is transpiring in this arena. This project should commence in early 2006. The data acquired during the current research will provide a good baseline for measuring progress toward a broader adoption of JDF in both the printer and vendor communities.

## Research Objective

### Background

The globalized B-to-B and B-to-C business environment has transformed the graphic communications industry. The graphic communications industry faced transformative challenges, and has evolved to meet these needs by providing e-commerce-based, just-in-time, personalized, and on-demand services in order to meet its customers' changing needs for faster turnaround, shorter-run, innovative business communications. In order to continue to meet these challenges, integrated, flexible production processes and well-structured networks are critical to the future of printing and publishing.

The original concept for developing an open job ticket standard came about in the mid 1990's. The International Cooperation for Integration of Prepress, Press, and Postpress (CIP3) developed standards to integrate prepress, press, and postpress production. At drupa 2000, CIP3 standards were widely supported by most graphic communications vendors. About that time, four members of CIP3 – Adobe, Agfa, Heidelberg, and MAN Roland – formed a joint effort to develop a unique format that was ultimately called job definition format (JDF) – an XML-based set of standards for any print job information exchange between different applications and systems. JDF is an open, extensible, XML-based job ticket standard building on CIP3's print production format (PPF) and Adobe's portable job ticket format (PJTF). JDF is capable of automating every stage of a print job, from creation to distribution, communicating between systems from different vendors, and linking management information systems (MIS) to production workflow. The JDF task force and CIP3 attracted more participating members and formed the most current iteration of the organization, the International Cooperation for Integration of Process in Prepress, Press, and Postpress (CIP4) in 2000.

JDF comprises the following major features:

***Integration and flexibility*** – The JDF standard describes an integrated process for producing print documents. It integrates processes, resources, messages, and networks to form a complete and automated document production workflow. JDF designates each process or procedure as a node. A tree of nodes describes each complete job workflow, presents the procedures to carry out the production, and interacts with the management information system (MIS). Figure 1 is an example of a book production workflow that shows the basic structure of a JDF workflow, necessary parts of a book, and the relationship between JDF, MIS, and electronic data interchange (EDI). Input resources direct the process nodes and generate the output resources for subsequent process nodes. The JDF standard is highly flexible; it provides an open and automated workflow based on the degree of complexity of the job and is ideal for document-related businesses of any size.



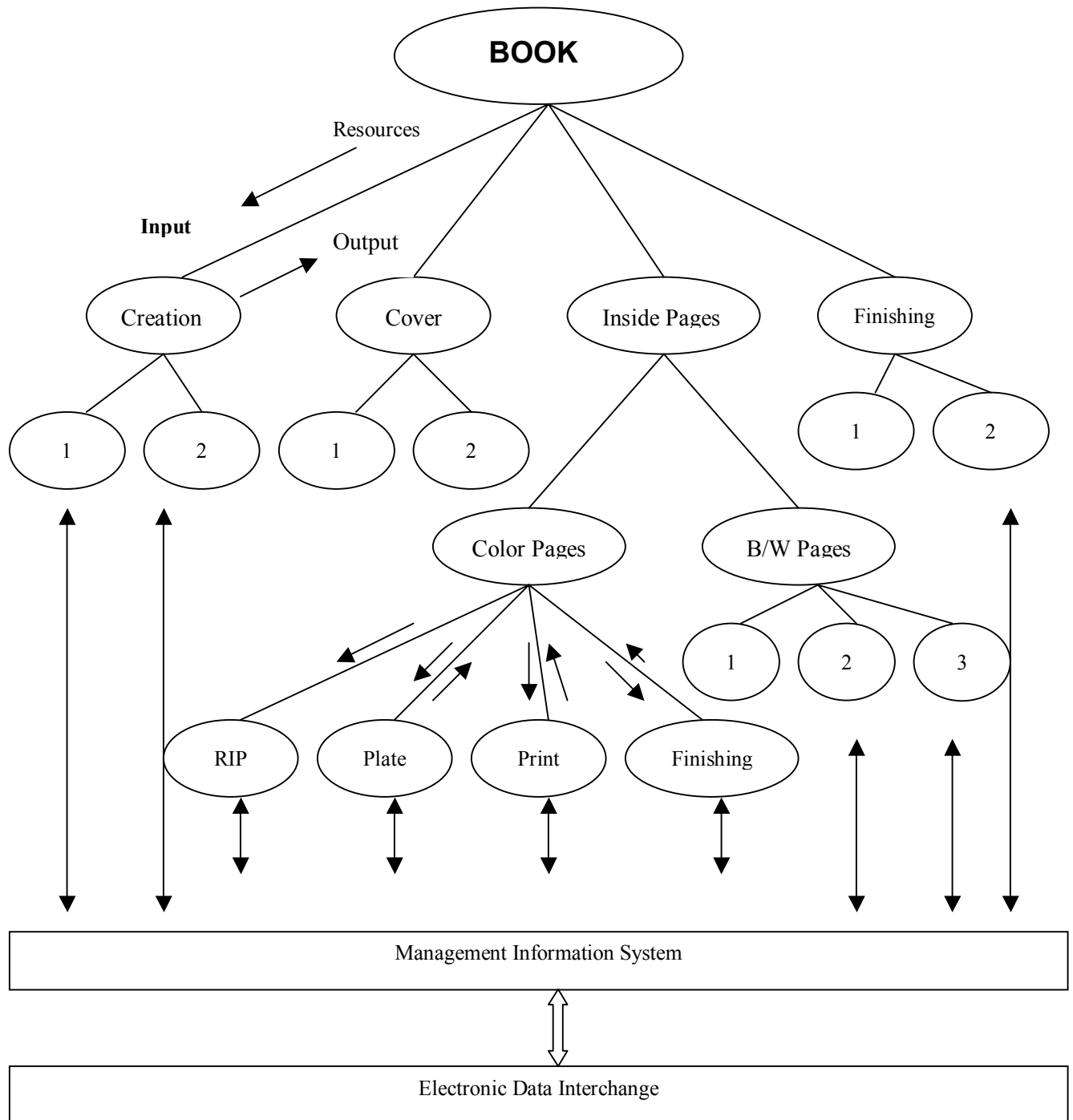


Figure 1. The Integration of JDF Workflow, MIS, and EDI

***Fully automated*** – Any document creation, management, and production business can integrate JDF with computer-integrated manufacturing (CIM), MIS, and EDI systems to develop a fully automated enterprise. This capability will transform the graphic communications industry from a craft-based custom manufacturing industry to an e-commerce-oriented information service industry.

Throughout the graphic communications industry, companies are building integrated processes and high bandwidth infrastructures in order to meet future demands. The integration of JDF workflow with MIS and EDI systems will become the standard for the graphic communications industry. The most critical tasks of printing production are the communications between different applications and systems. JDF provides an excellent solution for a seamless e-process and flexible digital workflow management that takes time and potential for error out of the process. Any printer can design an appropriate JDF workflow with plug-in operations, such as color conversion, color management, trapping, and imposition. Many software developers have also created necessary plug-ins for JDF workflow. All of these workflow solution packages and plug-ins are very helpful in making fully functioning JDF-enabled end-to-end solutions for graphic communications production.

Electronic media, emerging technologies, on-demand services, and globalized B-to-B and B-to-C business environments have radically changed the graphic communications industry. The JDF workflow standard is the base for powerful technology that will enable the graphic communications industry to improve quality of service in order to meet e-world-class demands and to upgrade the graphic communications industry to an e-commerce-oriented information service industry that can more effectively service its customers in the Knowledge Age.

## **Objective**

The primary objective of this research effort was to determine the global impact of JDF for the graphic communications industry and the adoption trends within the graphic communications industry for this new standard. This research also compared the graphic communications industries in the U.S., China, and the rest of the world regarding their respective adoption of JDF.

## **Approach**

This research included a two-stage research process. The first stage focused on an exploratory investigation comprised of in-depth interviews with industry experts both in the U.S. and China. The second stage was a Web-based survey. A Web-based questionnaire was developed from the review of literature and in-depth interviews with industry experts. The questionnaire was written in HTML and sent to one of our research team member, Mr. John Santos, who uploaded the questionnaire to a World Wide Web server and established the URL as <http://www.jdfsurvey.org>. The survey cover letter with the URL link was sent to CIP4 members with the help of Ms. Margaret Motamed and Ms. Barbara Hanapole of CIP4, and to the PrintPlanet Forums and DavesForums.com Forum members through Mr. Dave Mainwaring. The CIP4 membership base is comprised of 1,211 representatives of 300

Member companies, from Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Israel, Italy, Japan, The Netherlands, Norway, Poland, Spain, Sweden, Switzerland, Taiwan, United Kingdom, and the United States of America. PrintPlanet Forums has 53,184 members and DavesForums.com Forums have 701 members. Both PrintPlanet Forums and DavesForums.com Forums are individual memberships. Because this was a company-based survey, and 109 responses were received from 300 companies of CIP4, PrintPlanet Forums, and DavesForums.com Forums members, the response rate was 36%.

The Chinese version of the questionnaire was sent to 364 companies in Beijing, Shanghai, Guangdong, Hong Kong and Wuhan by e-mail, telephone, and fax. 95 responses were received from 364 companies in the China area, with a response rate of 26%.

The original plan of this study was to report U.S. and China areas. Because 42 responses were received from non U.S. or China areas and covered 25 different countries, it is worthwhile to report them as “rest of world.” Therefore, this research divided the total population into three geographic areas: the U.S., China, and Rest of World. All tables and figures present data segmented by those three geographic areas.

Responses from the participants’ companies as to the type of primary business are displayed in Table 1:

<b>Primary Business</b>	<b>U.S.</b>	<b>China</b>	<b>Rest of World</b>
Vendor	26 (38.8%)	21 (22.1%)	27 (64.3%)
Prepress Services	4 (5.9%)	9 (9.5%)	4 (9.5%)
Commercial Printer	25 (37.3%)	0 (0%)	10 (23.8%)
Digital Printer	1 (1.5%)	14 (14.7%)	0 (0%)
Packaging Printer	0 (0%)	0 (0%)	0 (0%)
Newspaper Publisher/Newspaper Printer	1 (1.5%)	0 (0%)	0 (0%)
In-House Print Production	6 (8.9%)	51 (53.7%)	0 (0%)
Other	4 (5.9%)	0 (0%)	1 (2.4%)
<b>Total</b>	<b>67 (100%)</b>	<b>95 (100%)</b>	<b>42 (100%)</b>

Table 1. Type of Primary Business of Participants’ Companies

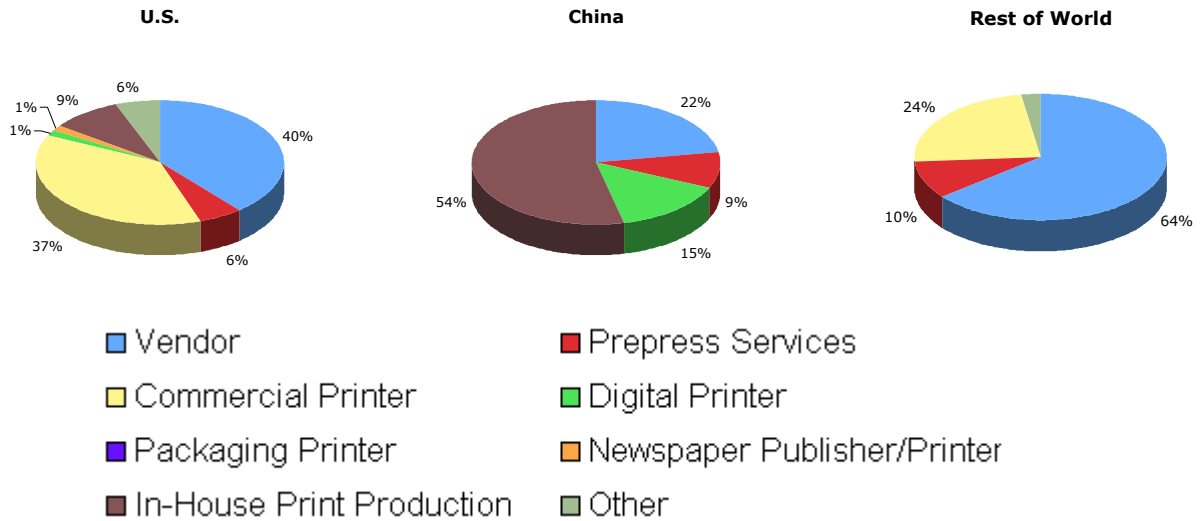


Figure 2. Type of Primary Business of Participants' Companies

As shown in Figure 2, most responses from printers in the China area were in-house print production, because in China, most in-house print producers are publicly owned, larger in size, and many were willing to respond to the survey; most commercial printers are privately owned, small to medium in size, and did not participate in this survey.

Table 2 displays the distribution of printer respondents by company size.

Number of Employees	U.S.	China	Rest of World
Less than 20	11 (26.8%)	4 (5.4%)	2 (13.3%)
20-60	8 (19.5%)	5 (6.8%)	3 (20%)
60-100	0 (0%)	8 (10.8%)	2 (13.3%)
More than 100	22 (53.7%)	57 (77%)	8 (53.3%)
Total	41 (100%)	74 (100%)	15 (100%)

Table 2. Size of Participants' Companies (Printers)

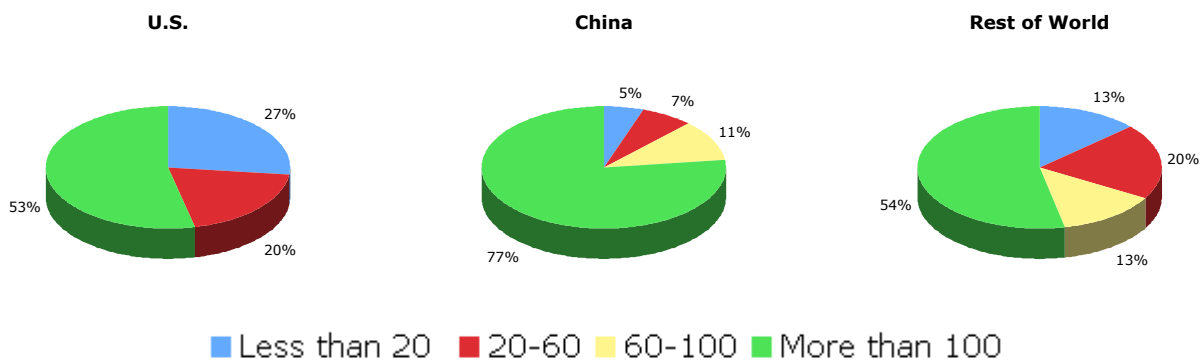


Figure 3. Size of Participants' Companies (Printers' Number of Employees)

**First key finding: Printing vendors have higher rate and motivation than printers for JDF implementation**

The survey reflected that Printing Vendors have a higher adoption rate and motivation to implement JDF than Printers (Table 3). There are many vendors who think that JDF will eventually be the *de facto* standard (Table 4).

JDF Implementation	Printers			Vendors		
	U.S.	China	Rest of World	U.S.	China	Rest of World
Implemented	10 (24.4%)	3 (4.1%)	6 (40%)	15 (57.7%)	10 (47.6%)	20 (74.1%)
By 2005	5 (12.2%)	1 (1.4%)	3 (20%)	2 (7.7%)	0 (0%)	1 (3.7%)
By 2006	9 (21.9%)	1 (1.4%)	3 (20%)	5 (19.2%)	0 (0%)	0 (0%)
By 2007	1 (2.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Not Interested	3 (7.3%)	6 (8.1%)	1 (6.7%)	0 (0%)	0 (0%)	0 (0%)
Not Sure	13 (31.7%)	59 (79.7%)	1 (6.7%)	4 (15.4%)	1 (4.8%)	6 (22.2%)
Did Not Answer	0 (0%)	7 (9.5%)	1 (6.7%)	0 (0%)	10 (47.6%)	0 (0%)
Total	41 (100%)	74 (100%)	15 (100%)	26 (100%)	21 (100%)	27 (100%)

Table 3. JDF Implementation

**JDF Implementation by Printers**

**JDF Implementation by Vendors**

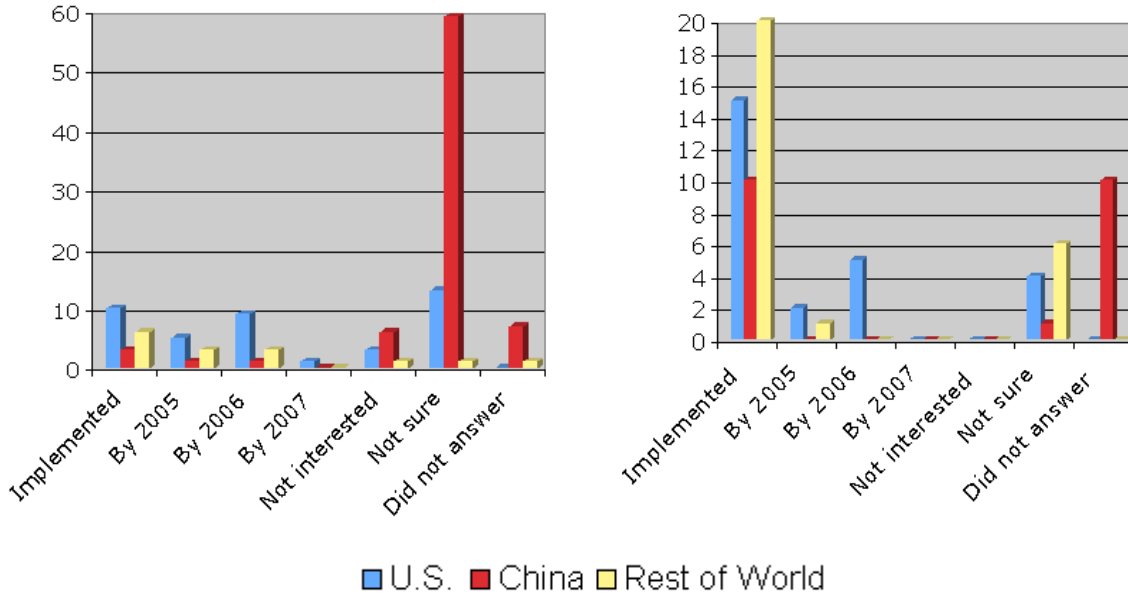


Figure 4. JDF Implementation

JDF will be the <i>de facto</i> Standard	U.S.	China	Rest of World
Yes	20 (76.9%)	5 (23.8%)	21 (77.8%)
No	0 (0%)	4 (19%)	1 (3.7%)
Not sure	6 (23.1%)	12 (57.1%)	5 (18.5%)
Total	26 (100%)	21 (100%)	27 (100%)

Table 4. How Vendors Think that JDF Will Eventually be the *de facto* Standard

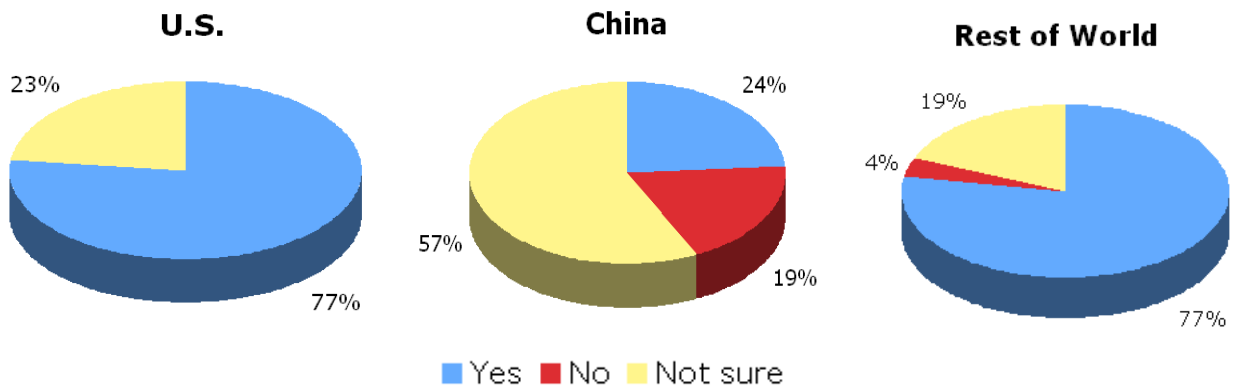


Figure 5. How Vendors Think that JDF Will Eventually be the *de facto* Standard

Vendors play an important educational role in the implementation of new technologies or standards in the printing industry. Most printers adopt new technologies and standards when acquiring new equipment. This lead-follow relationship between vendors and printers is very important for new technology implementation in the printing industry. The finding suggests that vendors should strengthen their lead positions and provide more education opportunities to printers.



**Second key finding: The U.S. and rest of world printers have a higher adoption rate and motivation to implement JDF than printers in China**

Table 3 shows Rest of World printers (mostly in Europe) have the highest JDF implementation rate (40%), with only 24.4 % of the U.S. printers having implemented JDF. 20% of Rest of World printers are planning to implement JDF in 2005 and another 20% plan to implement JDF in 2006. Alternatively, only 12.2% of U.S. printers are planning to implement JDF in 2005 and 21.9% are planning to implement JDF in 2006. Printers in China have only a 4.1% JDF implementation rate and only 1.4% of them are planning to implement JDF in 2005 and in 2006. The low JDF implementation rate and motivation in China indicates there is possibly a lack of information about JDF in the marketplace. These low rates may also be due to the fact that most printer respondents in the China area were publicly owned, in-house print production operations (Table 2). In some of the literature that was reviewed as part of this study, leading Chinese printers indicated they believed China would “leapfrog” other parts of the world in implementation of JDF and other business enhancements due to the fact that there are many newer businesses not burdened by existing infrastructure and resistance to change. While this may ultimately prove to be true, our current research indicates that the “leapfrogging” activity might be slower than these leading Chinese printers believe.

Additionally, the CIP4 membership base is comprised of 1,211 representatives of 300 member companies from Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Israel, Italy, Japan, The Netherlands, Norway, Poland, Spain, Sweden, Switzerland, Taiwan, United Kingdom, and the United States of America. Most of the CIP4 members are located in Europe and the U.S. Due to this uneven distribution of CIP4 members, there appears to be a higher JDF awareness in Europe and in the U.S. and a possible lack of widely available information about JDF in China and Southeast Asia.

**Third key finding: Lack of communications about JDF implementation between printing vendors and printers**

According to the survey results, the major reasons for printers not to implement JDF were “My vendors do not offer it” (especially in the China area) and “The costs outweigh the benefit” (Table 5). Participating printers indicated that the most important weaknesses of JDF were “Products are not plug and play” and “Not 100% JDF aware equipment” (Table 6). Even though it was suggested that printers had a lack of information about available JDF-compliant equipment and solutions, the results really reflected a lack of communication about JDF implementation between printing vendors and printers.

<b>Reasons not to Implement JDF</b>	<b>U.S.</b>	<b>China</b>	<b>Rest of World</b>
The costs outweigh the benefit	4	5	0
Have already reached the maximum production capacity and JDF will add no additional value	1	5	0
I don't believe it's going to work	1	3	0
Too complex and time consuming	1	3	0
My vendors do not offer it	3	48	0
Don't know enough about JDF yet to make a decision	0	0	0
Did not answer	0	8	0

Table 5. Reasons for Printers not to Implement JDF (Number of checks)

### Reasons Not To Implement JDF

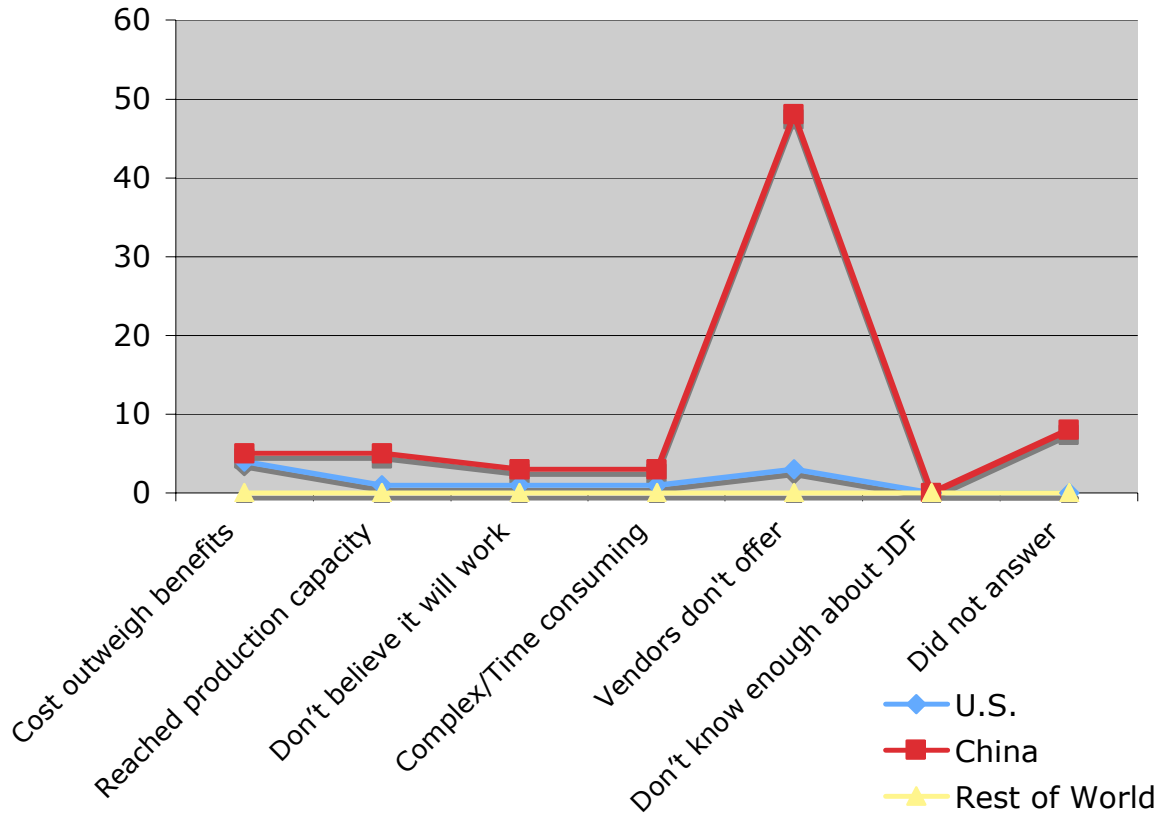


Figure 6. Reasons for Printers not to Implement JDF (Number of checks)

Weaknesses of JDF	U.S.	China	Rest of the World
Products are not plug and play	4.76	1	2.97
Not 100% JDF aware equipment	5.12	3.55	5.04
Complicated/tricky set up	3.27	2.36	1.71
Vendors self-serving	1.86	0.9	1.82
Not suited for the custom nature of my work	1.74	2.18	1.87
Other	0	0	0

Table 6. Printers' Ranking of Weaknesses of JDF (Higher scale number = more important)

## Weaknesses of JDF

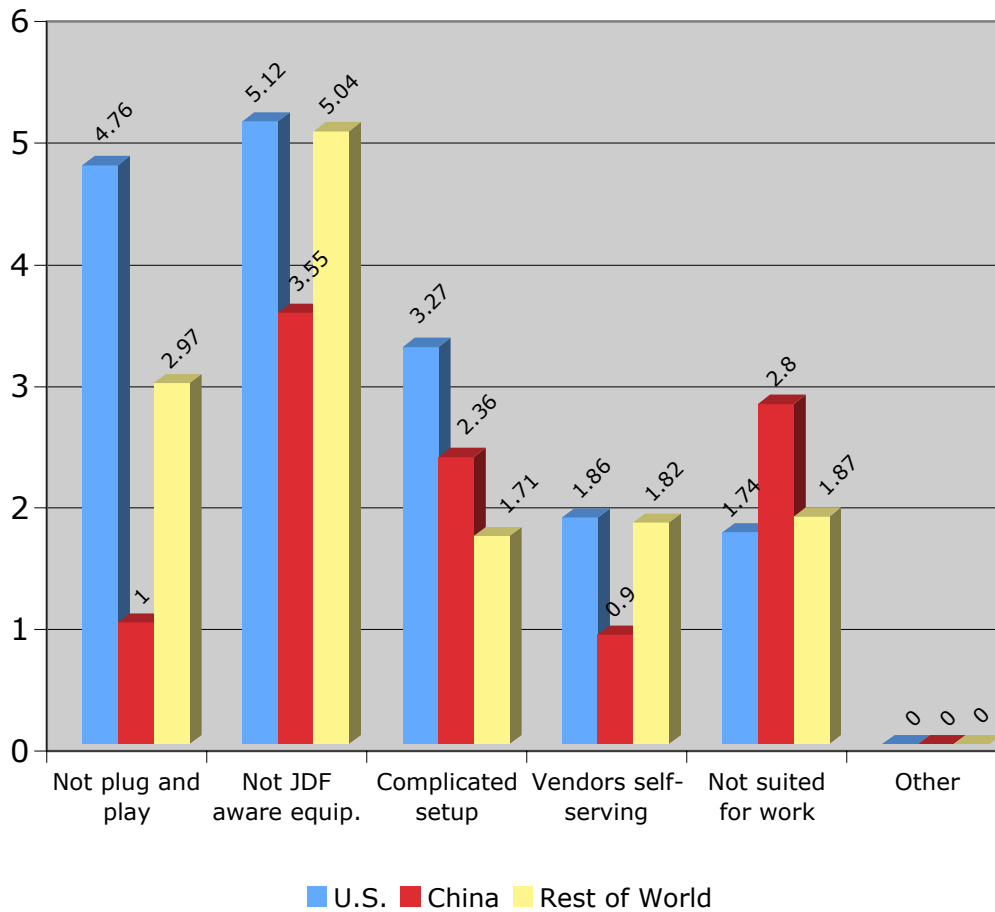


Figure 7. Printers' Ranking of Weaknesses of JDF (Higher scale number = more important)

In the printing industry, vendors always take the lead position in the implementation of a new technology or standard, often playing a critical educational role. Sometimes a new technology or standard can also be a vendor's differentiation and selling point. Information provided by vendors is very critical in printers' decision-making processes. Effective communication about these new technologies and compliance with emerging standards can be a very good strategy for vendors when promoting JDF and other industry innovations.

**Fourth key finding: Printing vendors did not fully respond to the strong demand for JDF implementation**

Results from the survey indicated that the most important driving force for vendors to implement JDF was “Customers are demanding it” (Table 7). Another question asked printers who had already implemented JDF: “What are the reasons for implementing JDF?” A majority of the respondents selected “Reduce cost, Reduce cycle time/improve turnaround time, and Increase level of automation” (Table 8). And finally, the printers’ satisfaction with JDF implementation were high (Table 9). All these indicated a strong demand from printers. Based on the low JDF implementation rate in the printing industry, there was an indication that printing vendors have not fully responded to the strong demand for JDF implementation, either through actual lack of implementation or lack of customer education about available capabilities.

<b>Driving Force for JDF Implementation</b>	<b>U.S.</b>	<b>China</b>	<b>Rest of World</b>
Good PR	7	1	9
Customers are demanding it	17	9	18
It is a market requirement for maintaining competitive advantage	17	5	15
The majority of customers are not yet demanding JDF compliance, but we want to be prepared when it goes mainstream	9	4	9
Helps us build better industry partnerships and alliances	16	6	13
Helps us save on internal development and product support costs	5	3	8
To help implement product line mergers and consolidation	4	2	5
We believe JDF is critical to the future success of the industry	12	2	14

Table 7. Vendors’ Driving Force for JDF Implementation (Number of checks)

## Driving JDF Implementation

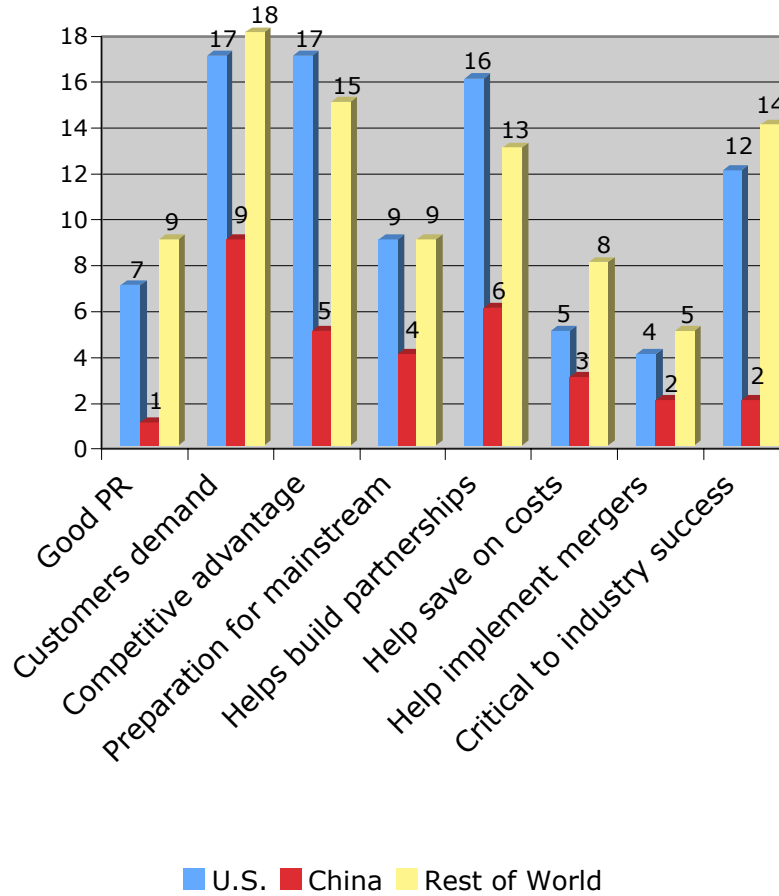


Figure 8. Vendors' Driving Force for JDF Implementation (Number of checks)

Reasons for Implementing JDF	U.S.	China	Rest of World
Reduce cost	4.32	3.1	3.21
Reduce staff	2.32	2.1	1.89
Reduce cycle time/ improve turnaround time	3.82	1.67	4.15
Maintain staff at current level	1.48	1.33	1.67
Increase level of automation	4.73	4.67	4.93
Improve integration of products from multiple vendors	2.33	1	2.62
Increase revenue	2.14	0.67	2.01

Table 8. Printers' Reasons for Implementing JDF (Higher scale number = more important)

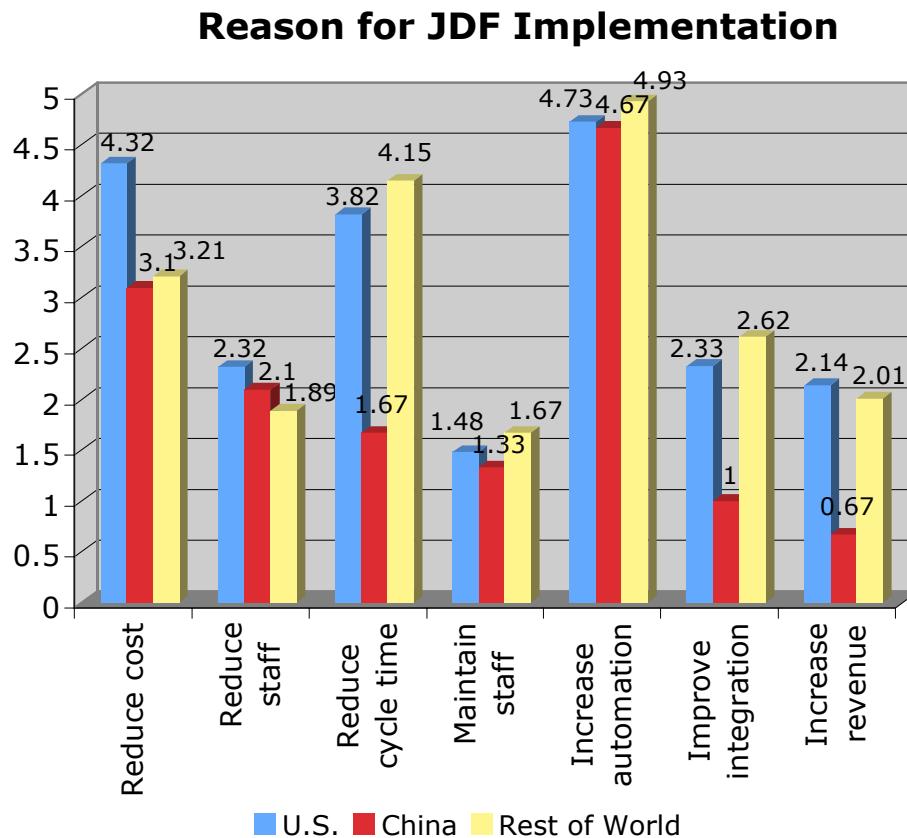


Figure 9. Printers' Reasons for Implementing JDF (Higher scale number = more important)

Printer's satisfaction with JDF	U.S.	China	Rest of World
5.0 point scale	3.3	3.67	2.67

Table 9. Printers' Satisfaction with JDF (5.0 point scale)

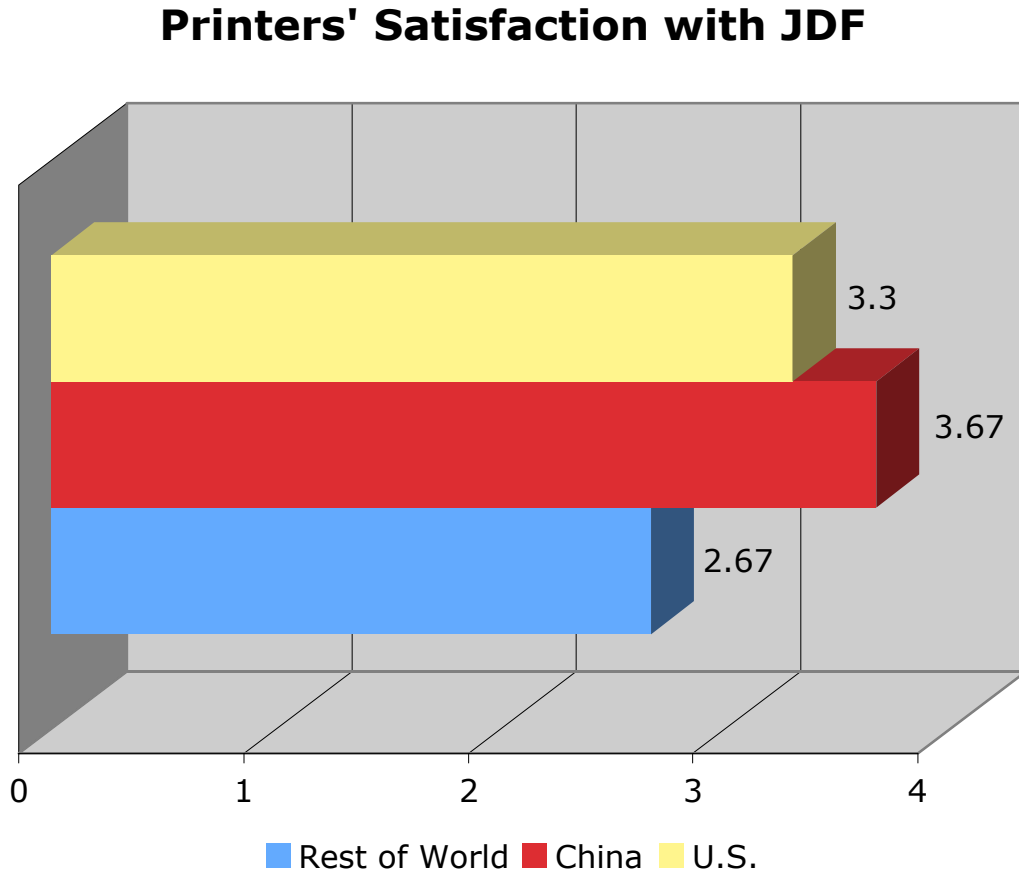


Figure 10. Printers' Satisfaction with JDF (5.0 point scale)

JDF enables the building of an integrated process for producing printed documents. It has a great market potential. Results from the survey also indicated that there is a strong demand from printers for these capabilities. Printing vendors should respond to the strong demand for JDF implementation by accelerating development processes and/or improving customer communications relative to JDF compliance and the benefits thereof.



**Fifth key finding: Printing vendors’ and printers’ focus on JDF implementation were not complete and balanced**

Survey participants were asked: “In what part of the process do your products implement JDF?” All of the survey respondents who had already implemented JDF in China answered that they had implemented JDF within their front office/customer interface and creative areas, which does not cover the prepress, press, and postpress areas (Table 10). It is interesting to note that printing vendors and printers in the U.S. and rest of the world who have already implemented JDF indicated that JDF implementation was focused on the prepress area (Table 10). Results of this study indicated that the focus on JDF implementation by printing vendors and printers was not complete and balanced across the production process and there was a global imbalance as well.

JDF implemented processes	Printers			Vendors		
	U.S.	China	Rest of World	U.S.	China	Rest of World
Front Office/Customer Interface	1	3	4	11	4	11
Sales and Asset Transfer	1	0	2	5	4	11
Creative	0	3	1	9	4	4
Prepress	8	0	5	20	0	19
Press	5	0	3	12	0	11
Postpress	4	0	3	9	0	9

Table 10. JDF Implemented Processes (Number of checks)

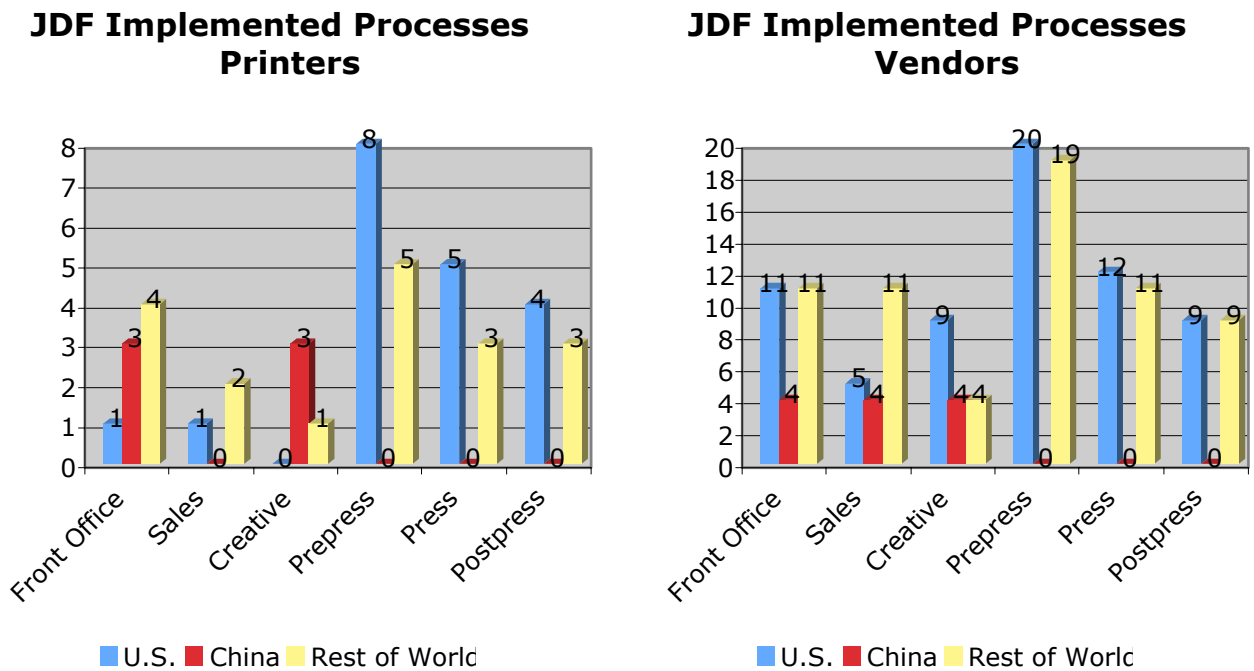


Figure 11. JDF Implemented Processes (Number of checks)

The major purpose of JDF implementation is building an integrated process for producing printed documents. JDF integrates processes, resources, messages, and networks to form a complete and automated document production workflow. JDF is highly flexible; it provides an open and automated workflow based on the degree of complexity of the job and is ideal for document-oriented businesses of any size.

Because JDF enables an integrated process, both vendors and printers should make more efforts to balance the JDF technology development in all areas of business and production in order to increase the benefits they accrue.

## **Concluding Remarks**

Implementation of the JDF standard in products and services facilitates the building of an integrated process for producing printed documents. It has a great market potential. Printing vendors should improve customer communications relative to the implementation of JDF in their products and services. Vendors also need to make more efforts in extending JDF compliance to the press and postpress areas in order to increase the overall value of JDF implementation.

The population of this study included CIP4, PrintPlanet Forums, DavesForums.com Forums members, and companies in major cities such as Beijing, Shanghai, Guangdong, Hong Kong, and Wuhan. These are, by definition, respondents with high JDF awareness. Future studies should focus on the general printing industry to understand the opinions and potential future actions of printers who are less aware of JDF and its implications for their businesses.

This study suggested that the JDF workflow standard enables the deployment of powerful technology for the graphic communications industry that will improve the quality of service in order to better meet e-world-class demands and to upgrade the graphic communications industry to an e-commerce-oriented information service industry serving the Knowledge Age.

It should be noted that this is the first time research has been attempted on a global basis on the effects of, and intent with respect to, adoption of JDF. The original intent was to compare the U.S. and China, but due to the global nature of the printing industry today, survey responses were received from around the world. While the numbers received from areas outside the U.S. and China, designated here as “Rest of World,” were small enough to not represent a statistically valid sample, they were included in this research to provide a flavor for what is going on in those regions.

As the momentum continues to build worldwide around JDF and computer integrated manufacturing for the printing industry, it is the recommendation of the research team that a follow-on research project take a more in-depth, global look what is transpiring in this arena. This project should commence in early 2006. The data acquired during the current research will provide a good baseline for measuring progress toward a broader adoption of JDF in both the printer and vendor communities.

## References

CIP4 Press Release (May 9, 2004). "CIP4 Announces the Publication of JDF 1.2 at drupa 2004." Düsseldorf, Germany.

Lee, B. (2004). What is Job Definition Format (JDF)? Document, 12(5), 16-17.

Lee, B. (2002). Technology Integration and Media Diversification for Global On-Demand Graphic Communications Service, Selected Papers, 35th Annual Convention of the National Association of Industrial Technology, 161-165.

Liu, F. (April 18, 2001). Building Big Printing Industry, Shenzhen Daily.

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## **About The Electronic Document Systems Foundation (EDSF)**

EDSF, an international charitable (501(c)(3)) foundation, supports and promotes educational opportunities and knowledge sharing that provide a common benefit to individuals and companies engaged in document solutions. The Foundation serves vendors and users who design and implement document solutions for business applications. EDSF provides scholarship grants to high school and college students, recognizes education programs and educators for innovation and excellence, provides research grants to colleges and universities, and promotes careers within the document communication industry.

For more information about EDSF, please visit [www.EDSF.org](http://www.EDSF.org) or phone +1 (310) 541-1481.

## **About California State University, Los Angeles,**

California State University, Los Angeles (CSULA), founded in 1947 by action of the California State Legislature, is a comprehensive university that offers programs of higher education in more than 50 academic and professional fields. The University is organized into six schools that house nearly 50 academic departments and divisions. Cal State L.A.'s reputation as a center of learning attracts students from all areas of the United States and from many foreign countries. About one-quarter of the campus' nearly 22,000 students are engaged in post baccalaureate study in programs leading to masters' and doctoral degrees; teaching, service, and specialist credentials; certificates; and other types of programs that prepare them for professional advancement.

Located at the eastern edge of Los Angeles and adjacent to western San Gabriel Valley cities of Alhambra and Monterey Park, Cal State L.A. occupies nearly 200 acres on a hilltop site that affords views of the mountains to the north, the San Gabriel Valley to the east, metropolitan Los Angeles to the west, and the Palos Verdes Peninsula and Catalina Island to the south. Ample parking facilities are available and public transportation to and from campus is excellent. Buses, subways, and trains provide direct service to more than 35 communities in the San Gabriel Valley and to other nearby Los Angeles communities. The Los Angeles Civic Center, with numerous historical and cultural attractions, is five miles west of the campus. Industrial and business centers and several major shopping centers are located nearby. Popular mountain and desert resorts are within a two-hour drive and beaches are less than an hour away by car.

The campus is nestled among rolling hills on a site that once housed one of California's 36 original adobes, built in 1776 by Franciscan missionaries and destroyed by fire in 1908. These lands once were part of a Spanish land grant known as the Rancho Rosa Castilla, created by the family of Juan Batista Batz, a Basque rancher from northern Spain who settled here in the 1850s. The inspiration for the name of the rancho, according to local historians, was the wild rose that once grew near the ranch home. The main drive through the campus is known as Paseo Rancho Castilla, in acknowledgment of our historic heritage.

For more information about CSULA, please visit [www.calstatela.edu](http://www.calstatela.edu)

## **About Wuhan University**

Wuhan University is a key university directly under the administration of the Education Ministry of the People's Republic of China. It is located in Hubei Province's capital Wuhan known as "The thoroughfare leading to nine provinces." The university has rolling physical features with the scenic Luojia Hill in it and the beautiful East Lake by its side, seeming in picturesque disorder. Its campus

is wooded and green, and has fragrant flowers everywhere all the year round; the buildings are in special architectural styles, magnificent and mansion-looking. For the above reasons, Wuhan University is widely known as one of the most beautiful universities in the world.

The university dates back to Ziqiang Institute, which was founded in 1893 by Zhang Zhidong, governor of Hubei and Hunan Provinces in late Qing Dynasty after his memorial to the throne was approved by the Qing Government. Later, it changed its name several times before it was named National Wuhan University in July 1928.

Approved by the State Council, the new Wuhan University was founded on August 2nd, 2000 – an amalgamation of the original Wuhan University, Wuhan University of Hydraulic and Electrical Engineering, Wuhan Technical University of Surveying and Mapping, and Hubei Medical University. The new Wuhan University has a vast range of prospects of development because it is a combination of four first-rate universities in China or in the province. The university is a natural whole with the disciplines of philosophy, economics, law, education, literature, history, sciences, engineering, agriculture, medicine, and management for 45,000 students including 12,000 postgraduates. It has been authorized by the State Council to set up graduate schools, with 143 doctoral degrees and 217 master programs, and 15 post doctorate circulation stations. The university now has 5,000 teachers, including 3,000 professors and associate professors, 570 doctorate supervisors, 4 academicians of Chinese Academy of sciences, 5 academicians of the Chinese Academy of Engineering, and 2 academicians of the international Eurasian Academy of Sciences. The university has also 22 disciplines offering "the Changjiang River program awarding scholars" for the posts of the special appointed professors.



Wuhan University boasts a campus which covers an area of 5,508 acres and it has a floorage of 2.42 million square meters. There are large modernized teaching buildings, laboratory buildings, gymnasiums, sports grounds, swimming pools, archive buildings, and a specimen building with more than 200,000 pieces of valuable animal and plant specimens. The university's libraries have a collection of approximately 5.2 million volumes, subscribe to more than 10,000 kinds of Chinese and foreign periodicals, are the central-China center officially decided for the "211 Project" documents – ensuring system of the Chinese universities and colleges. It now has two key State-level laboratories, three State-level discipline laboratories, two State-level research centers in engineering, six national research bases for humanities and social sciences, and seven national bases for fostering basic science personnel. Over twenty academic periodicals, Wuhan University Journal included, are published by the university, which has its own presses including an audiovisual material publishing house, colleges of foreign student's education and adult education, East Lake branch school, and three attached hospitals which are all of first-class according to the official standard.

## About the Research Team

Dr. Benjamin Lee, primary investigator of this study, is a Professor and the Associate Chair of the Department of Technology; and the Coordinator of Graphic Communications program at California State University, Los Angeles (CSULA). He also is a Chair Professor of Wuhan University in China and a Fellow of the Institute of Print-Media Professionals (IPP) in Hong Kong. He developed the new B.S. in Graphic Communications Degree Program with nineteen new courses and designed/initiated the Graphic Communications/Digital Document Management/Media Lab. He worked in the printing and publishing industry as a managing director and a manager for eight years and taught at Central Michigan University and Eastern Michigan University for five years before he began teaching at California State University, Los Angeles. He has been certified by the National Association of Industrial Technology as a Certified Senior Industrial Technologist. He received the College Teacher of the Year Award from the Los Angeles County Industrial Technology Education Association in 2005, 2004-2005 Professor of the Year Award from the ECST Student Council, California State University, Los Angeles in 2005, the PIASC Educators of the Year 2003 Award from the Printing Industries Association of Southern California in 2003, Educator of the Year Award (one award recipient worldwide) from The Electronic Document Systems Foundation in 2002, the Outstanding Professor Award from The National Association of Industrial Technology in 2001, the International Man of the Year for 1997/1998 from International Biographical Center, Cambridge, England in 1998, has been included in the 2000 Outstanding People, 2000 Outstanding Intellectuals of the 21<sup>st</sup> Century, Outstanding People of the 20<sup>th</sup> Century, Who's Who in Engineering Education, Dictionary of International Biography, Who's Who in the Midwest, and International Who's Who of Intellectuals. To date, he has published eight books and 95 papers. He has served as the principal investigator of nineteen grants and has acquired fifteen equipment and major software donations. He has made 29 invited keynote speeches and eighteen presentations at the national and international level, participating in international research such as The Global Future Study and serves as a Round Table Scholar of Round Table Group. He served as the President of the Graphic Communications Division of The National Association of Industrial Technology; the Consultant of the Hong Kong Printing Specifications (HKPS) project; an Advisory Board member of DOCUMENT Magazine; a member of the Los Angeles County Regional Occupational Program Advisory Committee; a Director of the Executive Board of The National Association of Industrial Technology; a reviewer for grant proposals for the California Governor's Office on Service and Volunteerism; a Judge of the Printing Industries Association, Inc. of Southern California Student Assembly and Academic Decathlon; a Judge of the Los Angeles County Fair Education EXPO; a member of the Advisory Committee of Inner-City Graphic Communications Academy and Pasadena Graphic Communications Academy; a reviewer for Grant Competition for the Office of Postsecondary Education, United States Department of Education; a reviewer of Delmar Publishers Inc.; a Director of the Printing Industries Association, Inc. of Southern California Education Committee; and initiated a 2+4+Career program.

Mr. John Santos is the founder of the Imaging Sciences & Technology Academy (ISTA) at Manual Arts High School in Los Angeles. He has served as the Lead Teacher of this Academy since its inception in 1996, and has worked as the Graphic Communication teacher since 1993. John is presently an educational advisor on three magazines, a member of the Hispanic Engineer Executive Action Committee, and also works as an adjunct lecturer at CSULA.

Hector Acevedo is a senior at California State University, Los Angeles. He is in his final quarter and is pursuing a double major, which will earn him a BS in Graphic Communications and BS in Business Administration with an option in Finance. He will also earn a Minor in Economics and a Certificate in International Economic Relations. He was recently named the 2004-2005 California State University, Los Angeles Outstanding Student of the Year in Technology. He is a member of the International Honor Society for Professions in Technology, Epsilon Pi Tau; and a member of Phi Kappa Phi, a national honor society whose mission is to recognize and promote academic excellence in all fields of higher education and to engage the community of scholars in service to others.

Esteban Diaz is a dual major at CSULA in Graphic Communications and Business Administration with a minor in Economics. He is also pursuing a CISCO Certified Network Associate (CCNA). He earned a certificate in Digital Imaging from Fullerton College. Graphic Arts and Technology Foundation endorsed this certificate. He plans on continuing his education by enrolling in the Masters program at CSULA in Industrial Studies.

Humna Khan is a student at CSULA. She anticipates graduating in June 2006 with dual Baccalaureates of Science in Graphic Communications and Business Administration with a concentration in management, and a minor in Economics. She is currently working part-time at the Faculty Instructional Technology Support Center at CSULA. She plans to pursue a Masters degree in International Business after she graduates.

Anna Medina is a graphic communications major. She participated in the 2+4+C program at CSULA. Anna graduated from Cal State LA in June 2005 with a bachelor's degree in Graphic Communications. She will be attending California State University, Fullerton in Fall 2005 for a masters degree in Library Science. The Global JDF Research project has given her the opportunity to research something that is or will be affecting the graphic communications industry in the future.

Amornrat Vasharasuksilpa received her Master of Arts of the Industrial and Technical Studies with the interest in graphic communication industry in June 2005. She joins the project because she is interested in the JDF specification which brings the industry the open standards where diverse applications/machines can communicate with each other.

Dr. Xiaoxia Wan is a professor and the Chair of Department of Printing and Packaging at Wuhan University. Dr Wan is a Fellow of Institute of Print-Media Professionals in Hong Kong, a Member of National Graphic Communication Education committee in China, and the Vice-Secretary-general of Hubei Printing Technology Association. She received her Ph.D. in Electronic Publishing Oriented in Geography Information System at Wuhan University (founded in 1893, former Wuhan Technical of Surveying and Mapping University) in Wuhan, China in December 2002. She is the author or co-author of 25 research papers.

Xiaolei Wei is a graduate student at Wuhan University where she received her bachelor degree in 2004 from Wuhan University, and began graduate study in the department of printing and packaging, majoring in Graphic Communications. She had taken part in the project "Soft Proofing on Screen and the Remote Proofing" with the responsibility for experimenting and testing. In this JDF project, she cooperated with the other two colleagues, sending, receiving the questionnaires, and analyzing the results.

Xiaoxin Wei received her bachelor degree from Wuhan University in 2004. She became a graduate student in the department of printing and packaging in 2004 and now majors in graphic communications. In this JDF project, she cooperated with the other two colleagues very well by sending and the receiving the questionnaire. She also tried to make an Internet questionnaire to promote this survey.

Lingling Yin is a graduate student majoring in Graphic Communications at Wuhan University. She received her bachelor degree in 2004 from the school of Materials Engineering in Zhengzhou University, received the first place in the graduates Entrance Examination, and was admitted to the department of Printing and Packaging for the graduate education. She was the president of "English Village" Student Association, and now is one of the university's graduate representatives. She is actively engaged in this JDF project, and cooperating with other two team members happily. Excellent communication skills and English make her run efficiently and smoothly in this project. She took charge of contacting different companies, collecting questionnaire feedback, and analyzing the results.



# Appendix

## Appendix A: Survey Cover Letter

Subject: The Global Impact of JDF on the Graphic Communications Industry

Date: May 12, 2005

<http://www.jdfsurvey.org>

Greetings,

The Electronic Document Systems Foundation (EDSF) is sponsoring research to determine the global impact of Job Definition Format (JDF) on the graphic communications industry. This study is being conducted by California State University, Los Angeles and Wuhan University, China, with a team of researchers (faculty and students). We have identified your company as a source of valuable information relative to JDF implementation, and we would appreciate your participation in this important research.

The survey will take about five minutes of your time. You can participate in the Web-based survey by visiting:

<http://www.jdfsurvey.org>

Results from the study will be included in a report that will be published on the EDSF Web site ([www.edsf.org](http://www.edsf.org)). We appreciate your participation. If you have further questions pertaining to the study, please do not hesitate to e-mail Dr. Benjamin L. Lee, Professor and Coordinator, Graphic Communications Program, California State University, Los Angeles at [blee10@calstatela.edu](mailto:blee10@calstatela.edu) or call Dr. Lee at (323)343-4572.

Additional information about the history and impact of JDF is included at the bottom of this e-mail.

Thank you.

<http://www.jdfsurvey.org>

The original concept for developing an open job ticket standard was developed in the mid 1990's. The International Cooperation for Integration of Prepress, Press, and Postpress (CIP3) developed standards to integrate prepress, press, and postpress production. At drupa 2000, CIP3 standards were widely supported by most graphic communications vendors. Following drupa 2000, four members of CIP3—Adobe, Agfa, Heidelberg, and MAN Roland—began a joint effort to develop a unique format—JDF—for any print job information exchange between different applications and systems. JDF is an open, extensible, XML-based job ticketing standard building on CIP3's print production format (PPF) and Adobe's portable job ticket format (PJTF). JDF is capable of completing every part of a print job, from creation to distribution, by communicating between systems from different vendors and linking management information systems (MIS) into the overall process. The JDF task force and CIP3 have attracted more participating members and formed the most current International Cooperation for Integration of Process in Prepress, Press, and Postpress (CIP4) in 2000.

JDF has following major features:

**Integration and flexibility** – JDF enables an integrated process for producing printed documents. It integrates processes, resources, messages, and networks to form a complete and automated document production workflow. JDF interprets each process procedure by a node. A tree of nodes describes each complete job workflow, presents the procedures to carry out the production, and interacts with the management information system (MIS). Figure 1 is an example of a book production workflow that shows the basic structure of JDF, necessary parts of a book, and the relationship between JDF, MIS, and electronic data interchange (EDI). Input resources direct the process nodes and generate the output resources for subsequent process nodes. JDF is highly flexible; and it provides an open and automated workflow based on the degree of complexity of the job and is ideal for document-oriented businesses of any size.

***Fully automated*** – Any document creation, management, or production business can use JDF in combination with computer-integrated manufacturing (CIM), MIS, and EDI systems to develop a fully automated enterprise. This capability will speed the transition of the graphic communications industry from a craft-based industry to an e-commerce-oriented information service industry.

## Appendix B: Survey Questionnaire (English)

### The Global Impact of JDF on the Graphic Communications Industry Survey California State University, Los Angeles, U.S.A. Wuhan University, China

What State or Province (and Country) is your facility located in? \_\_\_\_\_

1. Company's primary business (Check only one)

If you are a vendor, please check "Vendor" and go to Vendor's section

- a. Vendor
- b. Prepress Services
- c. Commercial Printer
- d. Digital Printer
- e. Packaging Printer
- f. Newspaper Publisher or Newspaper Printer
- g. In-House Print Production
- h. Other

2. Number of employees

- a. Less than 20
- b. 20-60
- c. 60-100
- d. More than 100

3. Has your company implemented Job Definition Format (JDF) workflow in any way?

- a. Yes
- b. No

\*If No, please go to Question 6.

\*If yes, in what business area: (Check all that apply)

- a. Front Office/Customer Interface
- b. Sales and Asset Transfer
- c. Creative
- d. Prepress
- e. Press
- f. Postpress

4. What are the reasons for implementing JDF? Please rank the choices by importance from 1-6, 1 being the most important.

- Reduce cost
- Reduce staff
- Reduce cycle time/improve turnaround time
- Maintain staff at current level
- Increase level of automation
- Improve integration of products from multiple vendors
- Increase revenue

5. How satisfied have you been with your JDF based workflow?

Not satisfied 1. \_\_ 2. \_\_ 3. \_\_ 4. \_\_ 5. \_\_ Very Satisfied  
\*Go to Question 8.

6. Are you planning to implement JDF by:

- a. Year \_\_2005\_\_2006\_\_2007\_\_2008
- b. Not interested
- c. Not sure

7. If you have decided not to implement JDF, why? (check all that apply)

- a. The costs outweigh the benefit.
- b. Have already reached the maximum production capacity and JDF will add no additional value.
- c. I don't believe it's going to work.
- d. Too complex and time consuming.
- e. My vendors do not offer it
- f. Don't know enough about JDF yet to make a decision

8. What are the weaknesses of JDF? Please rank the choices by importance from 1 to 6, 1 being the most important

- Products are not plug and play
- Not 100% JDF aware equipment
- Complicated/tricky set up
- Vendors self-serving
- Not suited for the custom nature of my work
- Other (Please write in) \_\_\_\_\_

9. Who shows more resistance when it comes to implementing or considering the implementation of JDF?

- a. Employees
- b. Management
- c. Neither

## **PRINTERS PLEASE STOP HERE**

## **VENDORS PLEASE START FROM HERE**

1. Do you think that JDF will eventually be the *de facto* standard?

- a. Yes
- b. No
- c. Not sure

2. Do you currently offer products that are JDF compliant?

- a. Yes
- b. No

If No, do you have plans in place to add JDF compliance to your products?

- a. Yes
- b. No

3. In what part of the process do your products implement JDF? (Check all that apply)

- a. Front Office/Customer Interface
- b. Sales and Asset Transfer
- c. Creative
- d. Prepress
- e. Press
- f. Postpress

4. Do your products plug and play with other vendor products in the JDF format?

- a. Yes
- b. No

If not, by when?

- a. 2005
- b. 2006
- c. 2007
- d. 2008
- e. Not sure

5. Do you plan to participate in the CIP4 certification testing being undertaken by GATF and planned by other independent testing bodies?

- a. Yes
- b. No

6. What is driving your JDF implementation efforts? (check all that apply)

- a. Good PR
- b. Customers are demanding it
- c. It is a market requirement for maintaining competitive advantage
- d. The majority of customers are not yet demanding JDF compliance, but we want to be prepared when it goes mainstream
- e. Helps us build better industry partnerships and alliances
- f. Helps us save on internal development and product support costs
- g. To help implement product line mergers and consolidation
- h. We believe JDF is critical to the future success of the industry

## Appendix C: Survey Questionnaire (Chinese)

### JDF 在全球图像传播工程领域的影响

#### 调查问卷

#### 美国加州州立大学洛杉矶分校 国际CIP4 工作组 武汉大学

为了解JDF 在全球图像传播工业领域的影响，美国加州州立大学洛杉矶分校、国际CIP4 工作组和武汉大学联合开展问卷调查，恳请贵公司给与支持和帮助。请在收到邮件后一周内将反馈信息发送到该信箱 [jdf@pps.whu.edu.cn](mailto:jdf@pps.whu.edu.cn) . 谢谢您的配合！

贵公司所在地（国家/省市/地区）： \_\_\_\_\_

1. 公司主要业务\_\_\_\_\_（单选）

如果您是供货商，请选择“供货”，并转到供货商调查部分。

- a. 供货
- b. 印前服务
- c. 数码印刷
- d. 企业内部印刷生产

2. 员工总数\_\_\_\_\_

- a. 20 人以下
- b. 20-60 人
- c. 60-100
- d. 100 人以上

3. 贵公司是否已经运行JDF 工作流程？ \_\_\_\_\_

- a. 是
- b. 否

如果“否”，请转做第六题；

如果“是”，那么该工作流程运用到哪些领域？（可多选）

- \_\_\_\_\_
- a. 全体决策人员或用户接口
  - b. 销售以及资产转移
  - c. 创新领域

4. 贵公司使用JDF 的原因？请将以下原因按重要性从大到小排序。 \_\_\_\_\_

- 1. 减少成本
- 2. 减少员工数量
- 3. 缩短生产周期、减少周转时间
- 4. 使员工掌握最新的技术
- 5. 提高生产自动化水平
- 2
- 6. 提升多个供应商所提供产品的一体化
- 7. 增收

5. 您对JDF 工作流程的满意程度： \_\_\_\_\_

不满意 1. \_\_ 2. \_\_ 3. \_\_ 4. \_\_ 5. \_\_ 非常满意

第五题完毕请转第八题

6. 您准备在什么时间使用JDF? \_\_\_\_\_
- 2005 年\_\_ 2006 年\_\_ 2007 年\_\_ 2008 年\_\_
  - 不感兴趣
  - 还不确定
7. 如果您还没有决定使用JDF, 为什么? (可多选) \_\_\_\_\_
- 花费太大
  - 目前已经达到最大生产能力, JDF 不会增添额外价值
  - 我认为JDF 不会起什么作用
  - JDF 太复杂, 而且耗时
  - 对JDF 了解不够, 因此无法作决定
8. JDF 的缺陷是什么? 请将以下选项按缺陷从大到小排序。
- 产品不能相互兼容。
  - 并不是100%的JDF 可以识别设备
  - 复杂的装配
  - 供货商总是为自己的利益着想
  - 与我工作的客户类型不相符
- 其它: \_\_\_\_\_
9. 当提及使用或考虑使用JDF 时, 谁会更加反对? \_\_\_\_\_
- 员工
  - 管理人员
  - 都不是

印刷企业题目结束。

#### 供货商部分

- 您认为JDF 将是最终的使用标准吗? \_\_\_\_\_
    - 是
    - 不是
    - 不确定
- 目前您提供适应JDF 的产品吗? \_\_\_\_\_
    - 是
    - 否

如果否, 您是否已计划为您的产品添加JDF? \_\_\_\_\_

    - 是 b. 否  - 您的产品在生产的哪个环节使用JDF? \_\_\_\_\_ (可多选)
    - 全体决策人员或用户接口
    - 销售以及资产转移
    - 创新领域  - 您的产品可以与其他经销商的使用JDF 模式的产品相兼容吗? \_\_\_\_\_
    - 可以
    - 不可以

如果不可以, 那么估计什么时候可以? \_\_\_\_\_

    - 2005
    - 2006
    - 2007
    - 2008



- e. 不确定
5. 您是否计划参加正在由GATF 承办、由许多独立的测试团体筹划的CIP4 认证测试。 \_\_\_\_\_
- a. 是
- b. 否
6. 您销售JDF 产品的原因是什么？（可多选） \_\_\_\_\_
- a. 良好的公共关系
- b. 客户的需要
- c. 市场要求我们保持这种竞争优势。
- d. 大多数客户还没有要求使用JDF，但是我们想在它变成主流之前准备好。
- e. 帮助我们赢得更好的合作伙伴。
- f. 帮助我们节省企业内部发展及产品维持的成本。
- g. 帮助我们实现产品生产线的合并及巩固。
-

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- Helps build careers for our industry

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Card #: \_\_\_\_\_ Expiration Date \_\_\_\_\_

- Please send me an invoice.
- Check enclosed, payable to EDSF.
- List my gift as anonymous.
- Credit my contribution to the EDSF Scholarship Fund.
- I want to remember someone special.
- In honor of  In memory of \_\_\_\_\_

Name of Individual to be remembered

- Matching Funds: My employer will match this gift. The form is enclosed/will be sent.

Company Name \_\_\_\_\_

Company Name \_\_\_\_\_

Please PRINT name as you would like it to be used in EDSF marketing materials

- YES – PRINT my company with my name.  NO – DO NOT print my company name with my name.

Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Province \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_ E-mail \_\_\_\_\_

**Thank You for Helping EDSF Make a Difference**

In the USA, your contribution is tax deductible to the full extent of the law. Our tax ID#: 33-0639924

As a result of your contribution, you will receive  
the EDSF bi-monthly research newsletter, *EDSF REPORT*.

For more information visit: [www.edsf.org](http://www.edsf.org) or call +1 (310) 541-1481