Survey questionnaire to investigate Designers knowledge to design for Additive Manufacturing

Demographics

1. What kind of product have you designed in the last 5 years?

   Please select the kind of product you have designed for

   i) Prototyping
   ii) Tooling
   iii) End-use-products

2. Based on question 1, please select from the list below, the one that best describes your area of design expertise
   i) Art design
   ii) Industrial Design
   iii) Product design
   iv) Engineering design
   v) Architectural design
   vi) Others

   Please provide specific details for others

3. Please choose from the list below, the one that best suits your level of design expertise.
   i) Novice
   ii) Intermediate
   iii) Expert

   Select from the list below the category that suits your usage of AM and it associated technologies

   i) Designer
   ii) Maker
   iii) User
   iv) Any combination of the three

   Please comment on the specific combination that suits

5) Have you ever designed for Additive Manufacturing, Yes/no?

If No… Thank you for taking part in this survey.
Do you wish to be contacted in the future for an interview? Yes/No

please write your email address below.

If Yes to question 9,

In your design for AM,

please comment on the specific component/product you designed

6) Did you consider the Potentials of AM? Yes/No
If yes, from the list below, please rank the following options on the scale of 1 – 11 (11 being the mostly considered and 1 being the least considered)

i) Hierarchical complexity ☐
ii) Form complexity ☐
iii) Functional complexity ☐
iv) Material complexity ☐
v) Cost reduction ☐
vi) Reduced time to market ☐
vii) Additional Product Value ☐
viii) Improvement in sustainability ☐
ix) Increased Value propositions ☐
x) Customisation ☐
xi) Personalisation ☐

Please mention any other AM Potentials not included in the list above and state if you considered them or not?

From your scale above, please comment briefly on why you have not considered the least ranked Potentials (comments like I don't have the adequate knowledge, I never heard of them before etc)

7) Did you consider the limitations of AM? Yes/No
If yes, from the list below, please rank the following options on the scale of 1 – 5 (5 being the mostly considered and 1 being the least considered)

I) Build Orientation ☐
II) Support Orientation/structure ☐
III) Build space ☐
IV) Cost of AM process ☐
V) Postproduction and manufacturability issues ☐

Please mention any other AM limitations not included in the list above and state if you considered them or not?

From your scale above, please comment briefly on why you have not considered the least ranked limitations (comments like I don't have the adequate knowledge, I never heard of them before etc)

8) Did you consider any AM specifics in your design? Yes/No
If yes, from the list below, please rank the following options on the scale of 1 – 4 (4 being the mostly considered and 1 being the least considered)

i) Design rules and guidelines ☐
ii) Design frameworks ☐
iii) Design Methodologies ☐
iv) Design tools ☐

Please mention any other Specifics not included in the list above and state if you considered them or not

From your scale above, please comment briefly on why you have not considered the least ranked AM Specifics (comments like I don't have the adequate knowledge, I never heard of them before etc)

9) Did you consider the AM technologies/processes in your design? Yes/No
If yes, from the list below, please rank the following options on the scale of 1 – 5 (5 being the mostly considered and 1 being the least considered)

i) Run time ☐
ii) Max/min Temperature ☐
iii) Material type ☐
iv) Build time ☐
v) AM machine brand ☐

Please mention any other aspect of AM Technologies/processes not included above and state if you considered them or not

From your scale above, please comment briefly on why you have not
Consider the least ranked aspects of AM technologies/processes (comments like I don't have the adequate knowledge, I never heard of them before etc)

10) Overall, which of these aspects do you consider more relevant in the design for AM and why?

i) AM Potentials
ii) AM Limitations
iii) AM Specifics
iv) AM technologies/processes

Learning to design for AM

11) How can you rate your knowledge of DfAM learning tools?
i) Novice
ii) Intermittent
iii) Expert

12) i) In your last design project, which learning resources did you use?

ii) As a designer, how do you learn to design for AM? Please select the one that best fits from the list below

i) Online course providers
ii) Artefacts/products
iii) Videos
iv) Repositories
v) CAD tools
vi) Design books
vii) Design precedents

Please comment on other learning media/tools not included in the list above which applies

iii) Is the answer from question 16i different from 16ii, please comment why in the box below?

13) Please select the most suitable options below

DfAM learning media/tools can inspire creativity in designers

i) Strongly Agree
ii) Agree
iii) No Opinion
iv) Disagree
v) Strongly Disagree

DfAM learning media/tools can help increase the knowledge of the product being designed

i) Strongly Agree
ii) Agree
iii) No Opinion
iv) Disagree
v) Strongly Disagree