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The cultural role(s) of makerspaces

Making community Making a safer world Making systems Making education Making markets Making meanings

Research-in-progress September 2016 FROM—NOW—ON This report is authored by From Now On as part of our ongoing research into the role of making in our future lives. @thisisfromnowon www.fromnowon.co.uk

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Definitions

"[Cultural industries]...refer to forms of cultural production and consumption that have at their core a symbolic or expressive element... Its scope is not limited to technology-intensive production as a great deal of cultural production in developing countries is crafts-intensive."

Unesco Creative Economy Report 2013

"Makerspaces, sometimes also referred to as hackerspaces, hackspaces, and fablabs are creative, DIY spaces where people can gather to create, invent, and learn. In libraries they often have 3D printers, software, electronics, craft and hardware supplies and tools, and more."

> Top google.com hit for search term "What is a makerspace?" 9 June 2016

From maker culture to making culture: what's going on?

The surge of interest in making, the maker movement and makerspaces, in recent years has drawn together diverse interest groups. We've seen makers, hackers, technologists, designers and artists joined by politicians, community activists, journalists, corporates and property developers, all attracted to the promise of making and increasingly active in a global conversation.

Under these influences, makerspaces, places for making which have had a relatively stable identity for their short history, are proliferating and diversifying in interesting ways. There are new types of spaces emerging, using different styles of programmes or partnerships, to serve ends that are unfamiliar; for example making to resolve conflict or to enable a museum to engage visitors in their collections, as the basis of schools programmes or as the way to reposition a city. These spaces share making and maker culture, and often interests in skills and innovation. But many go way beyond, using these as a base, sometimes as a vehicle to explore ideas and engage people in their agenda. In this way they're behaving more like cultural organisations than workshops.

We've taken a moment to step back and describe what we see, and that's what we're sharing here. We've looked at a range of spaces which we judged as foregrounding cultural activity. This is a small percentage of the many makerspaces that exist worldwide, but we're convinced of their importance as indicators of future potential.

This booklet represents our current research as a work in progress, as at July 2016. We're hoping to extend this work through sharing; we think it can benefit our community in tangible ways through identifying future models and practices. If you'd like to get involved in our research as it evolves, please get in touch.

Dee Halligan & Daniel Charny

Our changing work

We're creative and cultural consultants; we devise strategies to help organisations engage their teams and audiences often with themes relevant to our changing world and how they understand and shape it.

Our interest in the power of making to engage peoples imagination and develop peoples skills (all the while creating interesting social situations) has seen us push making activities into traditionally non-making spaces (museums, shopping malls, caravans) and use making as a route to very different ends as shown in the selection of projects below.

FROM-NOW-ON 2010-2015 Makerspace as placemaker Manufacturing as lens **Tinkerspace** as demonstration of skill Central Research Design Museum Laboratories Power of Making interpretation U+I Plc exhibition strategy V&A and **Design Museum** Crafts Council London Fixing as social bridge **Fixperts** Conservation as Making as Self-initiated project community focus interpretation Maker Library Visitor experience Network strategies The British Council National Trust

Reflecting changing contexts

And it's not just us. We're part of a much wider trend in amplifying and adapting the best of the new ideas, relationships and approaches emerging from makerspaces and maker culture, bringing them to broader audiences and public spaces, and applying them to new challenges and using them to fulfill different goals. The resultant new typologies and partnerships are the subject of this research.

ENGAGEMENT THROUGH MAKING

Public context e.g. library, retail, community centre	Might engage depending on offer	Might engage depending on offer	Might engage depending on offer
Sympathetic environment e.g. schools, museums	Only for a specific exhibit or event	Familiar motivations, activities and benefits	Familiar motivations, activities and benefits
Specialist environment i.e. makerspace	Known motivations, activities and benefits	Known motivations, activities and benefits	Only for a specific exhibit or event
	Specialist user	Prior interest user	General user

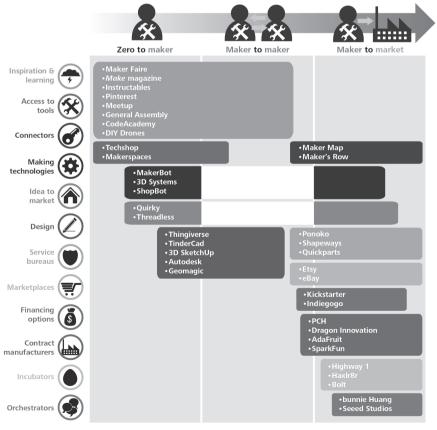
ENGAGEMENT WITH MAKING

Spot the difference

When we talk about makerspaces playing cultural roles, its easier to show what that means than to tell. For example see these 2 maps. The first, by the Deloitte Centre for the Edge, shows the 'maker ecosystem', obviously concerned with technology and innovation. The second, based on a map by Municipal Cultural Planning Inc, is used to consider and map an areas cultural life. The currency of the latter is very different, concerned with a rich individual and community life.

The maker ecosystem graphic

dupress.com/articles/a-movement-in-the-making



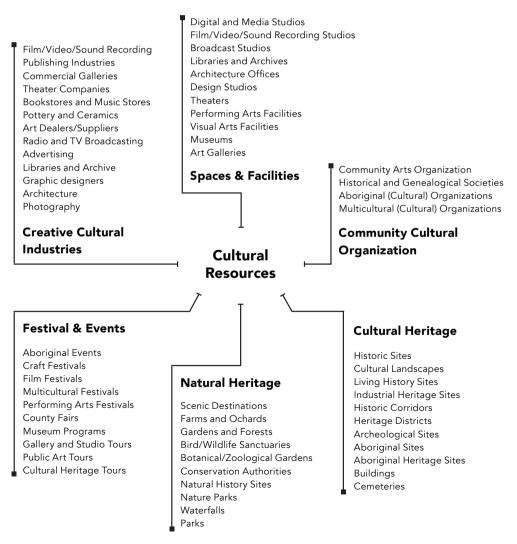
Source: Deloitte Center for the Edge.

Graphic: Deloitte University Press | DUPress.com

The more makerspaces behave like cultural organisations, the more 'friends' they might have on this second map, and a shift, from the first map to the second, is what we've felt is happening. This shift would be significant – changing 'friends' means changing audiences, supporters, partners, funders right through to what impact an organisation wants to make. That's the reason for this piece of research – to explore what this looks like in practice for those organisations who are doing it already, for the benefit of those who aren't.

Cultural resources graphic

www.ontariomcp.ca



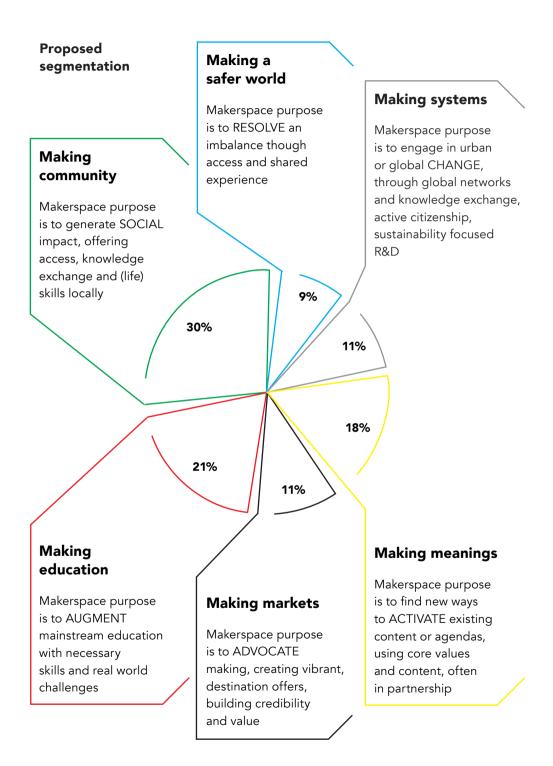
Research findings

For this research we started with the makerspaces.

We looked at 59 spaces worldwide, as a sample from the probably 2,500 spaces that exist and broadly define themselves as makerspaces. We selected them because their ambition, or their behaviour, relates to ideas or meaning or expression, more than it does skills or innovation.

We observed things they hold in common, from interests to audiences, which could suggest affinities and so broad groupings. By clustering them our aim is to understand them better, and also to learn from them. What approaches or programmes are working for their goals? What funding or partnership models do they hold in common?

The resulting segmentation, shown opposite, is crude; it's based on desktop research only and what's said on a website can be very different to reality. But these groupings have survived a number of critical examinations and already are starting to feel useful in stimulating conversation and speculating about possible future developments.



6 Case Studies

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We selected case studies, one for each segment, to explore in more detail how the positions identified through the segmentation exercise are played out, looking at everything from programmes to funding models. They're each demonstrating something new and they struggle like any other space to be sustainable. But these 6 places illustrate what happens when a space throws itself behind a cause; they're vibrant, mission-led organisations who are setting agendas.

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Making meanings NEW INC New York, USA

"We believe that looking to the humanities is vital for inventing the kind of future we want to live in. Divergent thinking, creative exploration and critical discourse are essential ingredients for truly innovative ideas."

Other examples: MadLab, Manchester; Fayetteville Library Makerspace, USA; iZone, Kiev, Ukraine

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Making systems FABLAB BARCELONA Barcelona, Spain

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"We need to see Barcelona as a social, productive and complementary ecosystem, where we have schools, universities, local governments, SEMs, big corporations and research institutes all committing to 3D printing and digital manufacturing, but with an important social content, putting an emphasis on citizen empowerment." Tomas Diez

Other examples: WoeLab, Togo; Maker Bay, Hong Kong; Olabi Makerspace, Rio

Making a safer world REFUGEE OPEN WARE Amman, Jordan

"Our vision is to harness advanced technology, cocreation and open innovation to reduce suffering, fulfil basic needs, and accelerate inclusive development in fragile and conflictaffected areas."

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Other examples: Double Union, San Francisco; Site3 CoLaboratory, Canada

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Making education VIGYAN ASHRAM Pune, India

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"To revolutionize the education system. Improper education is the root cause of many of our problems. Our mission is to spread this system in each and every school in India."

Other examples: FabLab@school DK; WAAG Institute FabLab, Amsterdam

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Making community WORKSPACE Cape Town, SA

"Workspace was founded as a platform to engage the different demographics within the common ground of creativity in an attempt to provide economic opportunities by the transferring of skills and experience." Craig Dunlop

Other examples: Blackhorse Workshop, London; Goldfinger Factory, London; Tingbjerg Library (project), Copenhagen

Making markets CHAIHUO Shenzhen, China

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"Chaihuo strives to spread maker culture, boost communication among makers of different backgrounds and facilitate crossover cooperations."

Other examples: Central Research Labs, London; GE Garages, International; Kite Eyewear (project), London



1 WORKSPACE Cape Town, SA www.justdiy.co.za



19 FABLAB BARCELONA / FabCity Barcelona, Spain fablabbcn.org



25 REFUGEE OPEN WARE Amman, Jordan www.row3d.org



30 VIGYAN ASHRAM Pune, India vigyanashram.com



41 CHAIHUO Shenzen, China www.chaihuo.org



49 NEW INC NYC, USA www.newinc.org

59 Makerspaces

Making community

1 WORKSPACE Cape Town, SA Sub http://www.justdiy.co.za

- 2 BLACKHORSE WORKSHOP London, UK http://www.blackhorseworkshop.co.uk
- 3 TINGJBERG Copenhagen, DK http://biblioteketskaber.wordpress.com
- 4 GOLDFINGER FACTORY London, UK http://www.goldfingerfactory.com
- 5 ATOLYE Istanbul, Turkey http://atolyeistanbul.co/#atlye
- 6 CAIRO HACKERSPACE Cairo, Egypt http://cairohackerspace.org
- 7 FABRIQUE Porto Alegre, Brasil https://www.facebook.com/fabriquecc
- 8 MAKER'S LOFT Kolkata, India http://kolkatamaker.space
- 9 THINK HAPPY EVERYDAY WORKSHOP Bengaluru, India http://the-workshop.in
- 10 THINGKING Cape Town, SA thingking.co.za
- 11 I AM U at 75 HARRINGTON Cape Town, SA http://www.75hs.co.za/en
- 12 THE MAKERSPACE Durban, SA http://themakerspace.co.za
- **13** WORKSHOP 305 London, UK http://www.workshop305.com
- 14 SO MAKE IT Southampton, UK http://www.somakeit.org.uk
- 15 CREATE SPACE LONDON London, UK http://createspacelondon.org
- 16 CARPENTRY CLUB London, UK http://www.oxfordhouse.org.uk/the-carpentry-club-at-oxford-house I

https://www.facebook.com/thecarpentryclub

17 THE REMAKERY London, UK http://remakery.org

18 SOUTH LONDON MAKERSPACE London, UK southlondonmakerspace.org

Making systems

19 FABLAB BARCELONA / FabCity Barcelona, Spain http://fablabbcn.org

20 MACHINES ROOM London, UK http://machinesroom.org

- 21 WOELAB Lome, Togo https://www.fablabs.io/woelab | http://www.woelabo.com
- 22 MAKER BAY Hong Kong, China http://www.makerbay.org
- 23 OLABI MAKERSPACE Rio, Brasil http://olabi.co/makerspace
- 24 SUSTAINABLE LIVING SQUARE Singapore http://www.sl2square.org

Making a safer world

25 REFUGEE OPEN WARE Amman, Jordan http://www.row3d.org/#home

- 26 DOUBLE UNION San Francisco, USA doubleunion.org
- **27** UNMONASTORY Athens, Greece (started in Italy pop up/roaming model) http://unmonastery.org
- 28 Site3 CoLaboratory CAN Toronto, Canada http://www.site3.ca
- 29 SEATTLE ATTIC COMMUNITY WORKSHOP Seattle, USA http://seattleattic.com

Making education

30 VIGYAN ASHRAM Pune, Rural India http://vigyanashram.com | https://vigyanashram.wordpress.com

31 FABLAB@SCHOOLDK Aarhus, Silkeborg, Velje municipalities, DK http://fablabatschool.dk/omfablabschooldk

32 KARKHANA Kathmandu, Nepal http://www.karkhana.asia

33 WAAG INSTITUTE FABLAB Amsterdam, NL http://fablab.waag.org

34 KOWORK E5G Lisbon, Portugal www.facebook.com/groups/1514548758860388

35 GENSPACE NYC, USA genspace.org

36 TINKERING STUDIO Exploratorium, San Francisco, USA http://tinkering.exploratorium.edu

37 LITCHEE LAB Shenzen, China http://www.litchee.cn

38 HONFablab Yogyakarta, Java, Indonesia http://www.honfablab.org

39 E-WASTE MAKERSPACE Near Accra, Ghana https://qamp.net/project

40 MAKLAB Glagsow Glasgow, UK http://maklab.co.uk

Making markets

41 CHAIHUO Shenzen, China http://www.chaihuo.org

42 FIRST BUILD Louisville USA https://firstbuild.com

43 GE Garages pop up - international www.ge.com/garages

44 BARCLAYS EAGLE LABS Birmingham, Bornmouth, Brighton, Cambridge, UK

https://labs.uk.barclays

- 45 NORWAY MAKERS Norway network http://norwaymakers.org
- 46 LAMBA LABS Beirut, Lebanon https://wiki.hackerspaces.org/Lamba_Labs
- 47 SZOIL SHENZEN OPEN INNOVATION LAB Shenzen, China http://szoil.org/wp/en
- 48 GEEKULCHA Pretoria, South Africa http://geekulcha.com

Making meanings

49 NEW INC NYC, USA http://www.newinc.org

50 MADLAB MANCHESTER Manchester, UK https://madlab.org.uk

51 FAYETTEVILLE LIBRARY MAKERSPACE Fayetteville, USA https://fflib.org/make

52 MAKER LOUNGE @PEM Peabody Essex Museum, Salem, Massachussets, USA

http://www.pem.org/learn/maker_lounge

53 LACMA Art + Technology Lab LACMA, LA, USA http://www.lacma.org/lab

54 DEFKO AN NEP (FABLAB DAKAR) Dakar, Senegal http://www.ker-thiossane.org/spip.php?article137 | https://www.facebook.com/DefkoakniepLab

55 KNOWLE WEST MEDIA CENTER / Bristol Maker Space Bristol, UK http://kwmc.org.uk

56 LONDON CENTRE FOR BOOK ARTS London, UK http://www.londonbookarts.org

57 INSTITUTE OF MAKING London, UK http://www.instituteofmaking.org.uk

58 LONDON MUSIC HACKSPACE London, UK http://musichackspace.org

59 IZONE Kiev, Ukraine https://izone.ua/en

Round table discussion

In June 2016, From Now On invited a group of people to discuss our research in progress, to kick about the premise (that makerspaces are increasingly embracing cultural roles) and consider our proposed segmentation. We also needed a guiding hand to keep our next stage of research relevant.

Bright, critical and deeply knowledgeable, the assembled group could draw on deep policy, funding and theoretical knowledge as well as direct operational experience of founding and running makerspaces. From as wide apart as Manchester, Shenzhen, Toronto and Copenhagen, strikingly similar themes emerged.

Timetable & participants

COPENHAGEN

Christian Villum Danish Design Centre Daniel Charny From Now On Dee Halligan From Now On Eva Brandt KADK Finn Petersen Copenhagen Municipality Joachim Halse KADK Karen Blincoe Chora Connection (DK) Inês Veiga KADK Thomas Binder KADK Thomas Ugo Ermacora LimeWharf (UK) Mikkel Christian Holst Underbroen (DK) Mikkel Helldén-Hegelund Biblioteket (DK) Sissel Olander KADK

ONLINE

Alma Daskalaki Crafts Council (UK) Asa Calow MadLab (UK) Justine Boussard From Now On Koby Barhad Independent designer/maker (CA) Lit Liao Litchee Lab (China) Liz Corbin Institute of Making, UCL (UK) Nat Hunter Machines Room (UK) 2:30 - 4:00 pm **Session 1 - Insights** Cultural roles research by Dee Halligan Case studies presented by Sissel Olander and Thomas Ermacora

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4:00 - 5:00 pm Session 2 - Panel Panel Session chaired by Daniel Charny Open Session

5:00 - 5:30 pm **Session 3 - Reflections** Final remarks Close

THEME I

The group saw the logic of makerspaces extending naturally into cultural roles, linked to making as the fulfilment of a human need and the power of doing things together at a <u>human scale</u>.

Karen Blincoe: I can imagine a world where makerspaces are everywhere, because people have to come together somewhere and do things together...

We aren't metal, we are not robots, we are actually physical, tangible beings made of flesh and bone.

Mikkel Helldén-Hegelund: For us it's not about setting up a mega space which relies on the machines; we have that stuff in other parts of the city. It's about creating a space where the machines are maybe not that important. And where the materials are not the main object but where patrons can be together and develop their skills and share knowledge. It's not about introducing high tech machines to the people, it's about creating a space in Tingbjerg where making can happen, for this you can even say it's low-tech. **Asa Calow:** We're a community for science, technology and art, and one of the first things we did was to open the doors for lots of different people and communities to come in. I think my favourite description from the past few years of how ⁵⁰ MADLAB operates is 'like a feral research institution'.

Mikkel Christian Holst: We have been going [to libraries/other cultural institutions] to pick up knowledge whereas in the makerspace the knowledge is produced on the spot, so in a sense the interpersonal component becomes the foundation. And that's why the actual space becomes so important. And so the key issue that makerspaces need to focus on

is not the technology, which at some point will be mainstream and ordinary and will lose its appeal but to be closed and mysterious and human.

THEME II

The group agreed also that the nature of makerspaces as inherently <u>creative places</u> (with little of the baggage of existing spaces like museums or universities) made them more likely to mix things up and evolve – 'a lab for unexpected things'.

Lit Liao: Our main income at ³⁷ LITCHEE LAB is not our membership but our education service; maker education is interesting in China now because perception ties China tightly with the word 'factory'. What I see here locally is that the kids here are creative, but they are not allowed to show their creativity.

They're not allowed to provide a different answer, because you're expected to present only one correct answer. And the makerspace is different to this because it can be a very fun place, can be a very attractive place and very productive place for people to try something out.

THEME III

The power of <u>connectedness</u> (digital and real life networks) was considered as both native to makerspaces and like a 'secret sauce' that makes them fertile and brings, perhaps, the potential to become sustainable. Access to networks, mutual exchange and peer learning, was seen as truly new and deeply embedded in makerspaces. **Asa Calow:** We work by instinct, making a bit of a mess, bringing different opinions, different people, different kind of practices, different approaches. And by causing a little bit of a commotion, a bit of a riot, and then from those things, almost inevitably you grow an interesting thing, unexpected things happen.

Which other networks are you part of?

Oh, blimey. There's all kinds. And our approach is generally to say yes, not to look at what people are saying but at what people actually do and find people who we share common ground with. And work very much at a human scale rather than perhaps at an organisational, rhetorical scale.

Liz Corbin: After a bit of reflection, I felt the discussion around 'who are your friends' resonated the most with me and my work. Quite a lot of these spaces and groups have motivations and aspirations to be more culturally engaged and impactful, but they lack a roadmap on how to get there. I think a bit of work around modes of cultural connectivity would be not only interesting, but a really useful tool for the leaders within maker spaces.

THEME IV

All of these things position makerspaces to enact cultural roles well. Equally it means that existing cultural institutions could be using the formats to fulfil their existing and future roles, perhaps through <u>hybrid</u> or integrated models.

Finn Peterson:

So I could be saying why should you do that in my library? Those people don't even look at the books, what are they doing there?

But that's really not the point, the point is that people were together, they were learning from each other and they didn't find it odd that they were in that environment. And people will always ask, what has that got to do with libraries, isn't the library about lending books? Yes, it is, but it's also concerned with knowledge, and sharing knowledge. And of course it's hard to see how a makerspace can play a role in lending out books - probably not. But in communicating knowledge, it's a bit easier to see that already and if the next step is to learn together then it suddenly makes sense. The point that really chimed for me was making systems, because making systems is really what our strategy is all about in the Copenhagen libraries. And the idea of bringing people together or just making a space where people can get together to get wiser together, to learn from each other and the library being that public room where this can happen, the space is already there.

Thomas Binder: I think we should really learn from this experience [at Tingbjerg] that the getting together of the Library and the University was productive for combining different ideas. We managed to nurture a hybrid situation and expand on it in unexpected ways. People could walk in freely into the library without being boxed into an existing role. I think it would make a lot of sense to pursue this dynamic further. I think

in the prototype we've seen the library shifting the idea what is considered a success. To understand that all these kids that were hanging out there in the libraries in the afternoons, are not a nuisance, but a huge success and in fact were a really a high number, a high attendance.

And to do that, to make that shift you have to set out to be open and respond to what happens.

THEME V

Evaluating success becomes critical; because everything is so new some 'accidental' successes could be overlooked as other ones are pursued. And funding usually follows the <u>metrics of success</u>. And the cultural sector already struggles with sustainable business models.

Liz Corbin: There's a difference between the missions and aspirations that come about when a space is initially founded, and what happens when subsequently they're so often pulled in different directions depending on who's able to financially support them. That kind of negotiation, which Asa at MadLab, has done really well, requires such a clear understanding of what that space's mission is and what it's for. I think a lot of spaces are having a very hard time negotiating that line.

Maybe it's through greater connectivity with spaces around the world, like some of the spaces in the research today, that these spaces can move forward.

Alma Daskalaki: If you know that there are certain benefits and value happening, then it's about finding a way, making suggestions about how to assess things. In some ways it can be the way we want it to be, because it has to do with how you report on things and how you research things. It's about identifying those ways and making the case. Mikkel Christian Holst: What's happening now is that a lot of people going to the makerspace have completely different ideas of what a successful product is. In scaling a start-up their interest may not be in making a lot of money, but in changing society. And this creates some interesting dilemmas

with the funders, the people who want to create jobs, because even if it's not been successful in their terms, the idea is still a success for the founders.

Dee Halligan: For anyone who wants a stable funding model to move away from industry and want to be part of the cultural sector completely baffles me. Because it's a dog fight to secure funding in the UK and I think internationally as well. But maker spaces and particularly maker programmes and activities are interesting because they're so accessible and demonstrate their value so immediately. They aren't compromised by their links to skills, employability or jobs creation while retaining both clear cultural value and their integrity in this context. This feels very new.

THEME VI

Which leads to possible <u>future</u> models; will these types of makerspace survive or evolve? Or might they disappear as discrete spaces, being adopted into other spaces and simply influencing existing models?

Mikkel Christian Holst: So a lot of thought and a lot of discussion went into what to call this place because basically we needed to open up routes for funding. And the same thing I think happens to many makerspaces; I'm sure there's a lot of stuff going on in these spaces that's probably the same concept as older models but called something else as well as all the new stuff.

The success of the movement is likely to be to eradicate these names and distinctions in some ways, eradicate these concepts because the ideas have spread out all over the place. Thomas Ermacora: The question is not if we want to change everything at once, but rather we want to create new institutions that either can be harboured within the old ones like makerspaces within libraries. We need to create new neighbourhood institutions that are not the big players, but that accommodate the preservation of cultural capital that is necessary for sharing places. I think if we can marry these dynamics, having cities understand the effervescence of maker culture and what it can bring to the city, how it can create new forms of commerce. and bring with it institutions that accommodate the old with the new or create ties, or preserve knowledge in places we can all share it.

I think the role of culture here is not just the question 'is it cultural?' but the makerspace's role in building the culture that we want to see.

Future research

We feel we're on to something both interesting and, we hope, of practical use.

Concluding this first stage of research we're happy that the examination is justified, the segments are robust enough, and most importantly that the new relationships revealed by the study are helpful in considering how a makerspace might choose to orientate and behave. A next stage of research might look in more detail at these behaviours - the activity, partnerships and business models for example - and relate them back to existing archetypes.

We've come to believe that the future of makerspaces, as spaces that have ambition to mature into some kind of mainstream 'success', is tied into their successful adoption of the wider, cultural roles that we've observed. The evolving vocabularies of these spaces i.e. the programmes and activities they host, and the emerging evidence for the impact they have i.e. who is benefitting in what ways, will dictate the future of these spaces. We'll be watching - if you'd like to get involved or benefit from this research please get in touch.

Research findings: summary

There is clear evidence of makerspaces behaving like cultural organisations.

This is a natural extension of the emotional, social and creative nature of making and the makerspaces ambition to act as homes for ideas and forces for creativity and change in the world.

Theres a new diversity in founders, funders and partners interested in exploring the potential of these new formats to serve their agendas and, in particular, engage new audiences.

Hybrid models are appearing, in which makerspaces act like cultural organisations and cultural organisations adopt maker influenced programming.

Currently fragmented, these changes are challenging to track and evaluate and their successes (and limitations) can be overlooked.

Learning from these developments can help assure the effectiveness of future initiatives.

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