E-commerce platforms

Which platform can and should be used to develop the new webshop?

Available product analysis / Expert interview

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0.1	11-03-2024	Luc Swinkels	First draft	Draft
1.0	12-03-2024	Luc Swinkels	First definitive version	Definitive

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Context

The goal of this research is to answer the following research question:

"Which platform can and should be used to develop the new webshop?"

Answering this question means I need to figure out which platforms are available and suited to the needs of the project, what their pros and cons are, and which ones should ultimately be selected.

To do this, I will be using the available product analysis and expert interview methods.

Methods

Available product analysis

I will be using the available product analysis method *(*Vogel, n.d.-a*)*. This method will help me figure out which platforms are available and what their pros and cons are.

Expert interview

I will also be conducting an expert interview *(*Vogel, n.d.-b*)* with Robin Galema, a front-end developer at Moonly who focuses on e-commerce platforms.

This can help me figure out possible issues I could face from first-hand experience that I did not think of.

Results

Available product analysis

Structure types
To start off, I wanted to figure out what type of technology structures are commonly seen in e-commerce platforms.

An article by Alec Hanak for DigitalSilk (Hanak, 2024) lists a few possible options for e-commerce tech in 2024 like Shopify, Magento and BigCommerce. I had also previously heard of Wix being a popular choice, which I was able to confirm by seeing how it performed against SquareSpace in an e-commerce setting in a head-to-head test by Emma Ryan (Ryan, 2024) and a Wix review by Joost Boer (Boer, 2024).

While Shopify has an all-in-one solution with their templating language, Liquid, they also frequently advertise a more flexible solution with their Hydrogen platform which uses a headless front-end based on React (*Hydrogen: Shopify's Headless Commerce Framework*, n.d.). This also goes for Wix, who have a headless solution by implementing Next.js (*Go Headless*, n.d.), and BigCommerce, who also offer a headless Next.js solution (*Next.js + BigCommerce | BigCommerce Dev Center*, n.d.).

By using my own experience in the webdevelopment world, I can safely say these options should be categorised in one of two categories, where some solutions are all-in-one, and other solutions are more flexible in how they combine a CMS (content management system) alongside a front-end solution:

- **Headless (custom storefront + CMS)**
    - Hydrogen storefront + Shopify
    - Next.js storefront + BigCommerce
    - Next.js storefront + Wix
- **All-in-one (built-in storefront & CMS)**
    - Shopify (Liquid)
    - BigCommerce (Stencil)
    - WordPress with WooCommerce plugin
    - Adobe Commerce (Magento)
    - Wix (Velo)

While there are more lesser-known e-commerce solutions, I have chosen to limit the options among these 8 popular choices, due to the technology needing to be proven, future-proof, and well-documented to ensure a positive development experience (a direct requirement for this project). With a lot of lesser-known technologies, there are possible issues that might take longer to resolve due to there being a smaller development community around these technologies.

To figure out which category is best suited for this project, I decided to rank each solution on how they perform on each requirement, based on the following development requirements:

Must-haves
- As a **developer**, I want to be able to **have freedom of development and not be dependent on plugins or packages**

Should-haves
- As a **developer**, I want to be able to **work with modern technologies and infrastructure solutions**
- As a **developer**, I want to be able to **develop and test the store locally**
- As a **developer**, I want to be able to **have automatic CI/CD integrations and preview environments**
- As a **developer**, I want to have a **pleasant development experience and not be dependent on old / non-maintained technologies**

Could-haves
- As a **developer**, I want to be able to **work with dynamic and scalable code**
- As a **developer**, I want to be able to **re-use code snippets or elements for future e-commerce projects outside of this project**
- As a **developer**, I want to be able to **set up and run proper unit / code tests**

What do the robots say?

Since all of these technologies are well-documented, it means I have powerful tools like ChatGPT available to me for comparisons which I want to take into consideration. I asked it to rank all 8 e-commerce solutions based on the requirements listed above and it came to the following conclusions and ranking:

== BEGIN CHATGPT OUTPUT ==

1. **Shopify headless, using Hydrogen:**
●   Offers freedom of development with headless architecture.
●   Avoids heavy dependence on plugins or packages.
●   Supports modern technologies and infrastructure solutions.
●   Allows local development and testing.
●   Can integrate with CI/CD pipelines.
●   Provides a pleasant development experience.

2. **BigCommerce headless, using Next.js:**
●   Offers freedom of development with headless architecture.
●   Minimises reliance on plugins or packages.
●   Supports modern technologies and infrastructure solutions.
●   Allows local development and testing.
●   Can integrate with CI/CD pipelines.
●   Provides a pleasant development experience.

3. **Magento:**
●   Offers freedom of development.
●   Not heavily dependent on plugins or packages.
●   Supports modern technologies and infrastructure solutions to some extent.
●   Allows local development and testing.
●   Can integrate with CI/CD pipelines.
●   Development experience might not be as smooth as headless solutions.

4. **Shopify, using Liquid:**
●   Offers some freedom of development with headless architecture.
●   Relies on Liquid templating language.
●   Supports modern technologies and infrastructure solutions.
●   Allows local development and testing.
●   Can integrate with CI/CD pipelines.
●   Development experience might be influenced by Liquid's limitations.

5. **BigCommerce, using Stencil:**
●   Provides a degree of freedom of development.
●   May rely on Stencil framework for development.
●   Supports modern technologies and infrastructure solutions.
●   Allows local development and testing.
●   Can integrate with CI/CD pipelines.
●   Development experience might be influenced by Stencil's limitations.

6. **Wix headless, using Next.js:**
●   Offers more freedom of development compared to standard Wix.
●   Relies on Next.js for headless functionality.
●   Supports modern technologies and infrastructure solutions.
●   Allows local development and testing.
●   Can integrate with CI/CD pipelines.

- Development experience might be influenced by the constraints of the Wix ecosystem.

7. **Wix, using Velo:**
- Provides some development freedom within its platform.
- May rely on Wix's proprietary tools and technologies.
- Supports modern technologies and infrastructure solutions within its ecosystem.
- Local development and CI/CD integrations might be limited compared to headless solutions.

8. **Wordpress with WooCommerce:**
- Provides some development freedom within WordPress.
- Relies on WooCommerce plugin for e-commerce functionality.
- Supports modern technologies and infrastructure solutions to some extent.
- Allows local development and testing.
- Can integrate with CI/CD pipelines.
- Development experience might be influenced by the constraints of WordPress and WooCommerce, and it may not be as scalable or flexible as headless solutions.

In summary, headless commerce solutions like Shopify's Hydrogen and BigCommerce with Next.js tend to align best with the given requirements, offering the most flexibility, modernity, and scalability.

== END CHATGPT OUTPUT ==

You can see the full conversation [here](#) (*ChatGPT*, n.d.).

My ranking
While I do appreciate the ability of tools like ChatGPT when it comes to summarising features, I still want to form my own opinion by ranking the solutions myself.

My ranking is based on a combination of the following sources:
- Personal experience
- Experience of colleague(s)
    - Robin Galema, front-end developer at Moonly Software, lead developer when it comes to e-commerce solutions for Moonly
- Exploring the development documentation of each solution
    - WordPress (*WordPress Developer Resources | Official WordPress Developer Resources | Developer.WordPress.org*, 2024)
        - WooCommerce (*WooCommerce*, n.d.)
    - BigCommerce (*About Stencil | BigCommerce Dev Center*, n.d.)
    - BigCommerce headless (*Next.js + BigCommerce | BigCommerce Dev Center*, n.d.)
    - Shopify (*Build Shopify Apps*, n.d.)
    - Shopify headless (*Hydrogen: Shopify's Headless Commerce Framework*, n.d.).
    - Wix (*Wix Developers*, n.d.)
    - Wix headless (*Go Headless*, n.d.)
- Online articles on pros and cons of e-commerce solutions
    - Wix review by Start24 (Boer, 2024)
    - Wix vs Squarespace comparison (Ryan, 2024)
    - Shopify headless vs BigCommerce headless comparison (Folio & Hussain, 2024)
    - Top 10 Best Open Source Ecommerce platforms (Osman, 2024)
    - Best Shopify Competitors & Alternatives (Haan & Main, 2024)
    - WooCommerce review (Novak, 2024)
    - Wix review (Haan, 2024)
    - BigCommerce review (Organ, 2024)

* = tied with other option

Requirement	Shopify (headless)	BigCommerce (headless)	Wix (headless)	BigCommerce (Stencil)	Shopify (Liquid)	Wix (Velo)	WordPress (WooCommerce)	Adobe Commerce (Magento)
Freedom of development	1*	1*	1*	7	8	6	5	4
Modern technologies	1*	1*	1*	5	4	6	7	8
Develop locally	1*	1*	1*	1*	1*	8	1*	1*
CI/CD possibility	1*	1*	1*	1*	1*	8	1*	1*
Pleasant development experience	1	2*	2*	5	6	7	8	4
Scalable code	1*	1*	1*	8	4	5	7	6
Re-use code snippets	1	2	3	8	6	7	5	4
Set-up tests	1*	1*	1*	4*	4*	8	4*	4*

Other than the development requirements, I also ranked them on other aspects like pricing and scalability:

* = tied with other option

Requirement	Shopify (headless)	BigCommerce (headless)	Wix (headless)	BigCommerce (Stencil)	Shopify (Liquid)	Wix	WordPress (WooCommerce)	Adobe Commerce (Magento)
Pricing	6*	4*	2*	4*	6*	2*	1	8
Scalability	1*	1*	7	1*	1*	8	6	5
Previous development experience (myself+moonly)	2	5*	5*	7*	1	7*	4	3
Personal rating	1	2	4	5	3	8	7	6

Expert interview

To see how the experts think of these solutions, I asked my colleague and supervisor, Robin Galema, who has worked with e-commerce platforms for many years, some direct questions about the pros and cons of these platforms.

- **Which e-commerce platforms have you previously worked with?**
  - Woocommerce, Shopify, Magento (a bit)
- **Do you have any experience working with headless front-ends?**
  - Have worked with some headless solutions such as Strapi for loading content in a react-native app (Pieter Pot) and also did some experimenting with Shopify's headless options using their GraphQL API and Next JS as a framework.
- **What would your personal preference of e-commerce solution be for this project and why?**
  - My personal preference would be Shopify, as we have the most experience with this platform and it has great capabilities using themes and apps but especially when using it as a headless solution. Other e-commerce platforms offering headless solutions are definitely worth considering as well.
- **Other than the 5 platforms mentioned (Shopify, BigCommerce, WooCommerce, Wix, Magento), do you think there are any other suitable platforms for this project?**
  - I think these platforms are good as a starting point as they are well known platforms with a good online presence and sufficient documentation and developer resources. There are probably a lot more smaller options available as well, but sticking to ones that have good developer support should be a priority so I think this list is fine.
- **Do you have any concerns about the future of either of these platforms? (e.g. not being maintained, bankruptcy, bad company direction)**
  - All of these platforms are run by big international companies with a large amount of stores and customers already depending on them. This should not be a concern and the risk of this happening is not significant for making a choice in my opinion.
- **Do you feel like pricing is a big factor in deciding which platform is best suited for this project?**
  - As it is obviously nice if the cost of the chosen solution can be low, it should not be a main concern if the option provides clear benefits. Most of our current customers pay the Shopify fees and additional fees for plugins/ apps so it should not be a major concern if there is a cost applied to the solution.
- **Are there any platforms that you would already write off as an option, if yes, why?**
  - I would personally try to avoid Woocommerce as WordPress is not made for e-commerce and it often results in a slow CMS. Magento should not be completely excluded but given our internal experience with the CMS it would not be among one of my first choices.

Conclusion

Going off the available product analysis rankings, It's clear to say that the headless category is more suited for this project than an all-in-one storefront solution.

Wix, Wix headless, WooCommerce, Magento, BigCommerce (Stencil), and Shopify (Liquid) were simply not viable options due to lack of freedom of development and relying too heavily on their respective template languages or ecosystems.

BigCommerce and Shopify pricing is very similar, and they both allow for scalability and a big development community (e.g. npm packages) by using a headless front-end solution. While I believe both the Shopify headless (Hydrogen) and BigCommerce headless (Next.js) solutions are suitable for this project, when looking at all the aspects such as previous developer experience and other running projects at Moonly (where Shopify has been a popular choice, and there being no experience with BigCommerce), I have decided to choose Shopify with the Hydrogen headless front-end as the e-commerce solution for this project.

I have chosen this because of it ranking the highest on almost all requirements and suiting the project needs. Since a big requirement was to have freedom of development, I have opted for Hydrogen (headless) over the all-in-one version of Shopify with Liquid, which is what Moonly has previously worked with.

From the expert interview I gathered that Robin also preferred to use Shopify with a headless front-end which solidified my own rankings.

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